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THE PHYSIOLOGY AND HYGIENE OF STUDY DURING THE DEVELOPMENTAL PERIOD, WITH ESPECIAL REFERENCE TO THE PUBLIC SCHOOLS OF SACRAMENTO.

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Read before the Sacramento Society for Medical Improvement.

> Crafty men contemn studies,
> Simple men admire them,
> And wise men use them.—*Bacon.*

In June, 1890, I presented for the consideration of the Sacramento Society for Medical Improvement the following resolution: *Resolved*, That, in the opinion of this Society, the hours of continuous study and recitation in the High School of Sacramento are excessive and, if unchanged, will result in serious and permanent impairment of the health of many of the pupils.[1] Surprised, if not astonished, at the opposition excited by what seemed to me the conservative expression of elementary hygienic truth, I pressed the resolution no further, promising at some future time to treat the matter in a more formal and exhaustive manner. This evening I bespeak your attention to the fulfilment of that promise, and I do so with the profound conviction that it was no venial transgression of hygienic laws which I then denounced, but, on the contrary, a transgression radical in its nature and far-reaching in its effects; a transgression not ending with the transgressor, but in its results, transmitted from generation to generation, to enfeeble and degrade the race.

Every human being enters the world with a certain heritage of actual and of nascent energies, which, in conjunction with their environment, establish the possibilities and limitations of the individual life. For nearly a score of years these energies, mental as well as physical, are in a state of rapid, almost tumultuous, development. Every nerve, every muscle tingles with life. As it is in the period of molecular mobility that incident forces produce their greatest effect in molecular rearrangement, so it is during the plastic period of human life that environment, natural as well as artificial, accidental as well as purposive, exerts its most active and permanent influence.

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[1] In accordance with a standing resolution of the Board of Education, the High School hours from March 1st to August 1st of each year begin at 8:30 A. M. and end at 1:30 P. M., with recess of 5 minutes at 10 and another of 15 minutes at 12. In 1890 and 1891 the operation of this resolution was deferred until April 1st.

This period, then the developmental period, epitomizing as it does the evolution of the human intellect, and fixing as it does the physical, the intellectual and the moral status of the individual, possesses at once a supreme interest and a supreme importance; an interest and an importance which seem not to have received their just recognition at the hands either of the average educator or of the average citizen. During this period three distinct and important processes are carried on simultaneously, viz.. (1) Discharge of function. (2) Evolution of function. (3) Evolution of structure.

When we reflect that, on the completion of this period, the last of these processes always, and the second generally, ceases altogether, and that ordinarily only the first survives, we shall appreciate the danger incurred by school-children under a system of over-pressure and under-feeding. When we further reflect that a frequent, if not the uniform result, of such a system is a partial arrest of both functional and organic evolution, we shall realize the importance of this danger and of the preventive measures advocated by enlightened men everywhere.

Physiology bears on study at several points: *First*—The human body is an assemblage of correlated organs whose functions constitute human life. These functions, no less than these organs, are indissolubly united—not one is wholly independent of any other. "There is not," says Jaccoud, "a single normal organic act that results from a sole and indivisible condition. All those phenomena that seem the direct and immediate effects of a single process are in reality the ultimate expression of a series of operations, distinct, it is true, but still closely united in immutable association." But these functions are not merely associated; they are associated in a certain order, and those may be rightly considered fundamental on whose vigor and integrity depend not only the vigor and integrity, but also the very existence of the functional superstructure. Such are the nutritive functions.

Horace Mann, I believe it was, who said, in substance, eupepsy may not be genius, but it is certainly her handmaid. The intellectual processes have a physical basis. This is tacitly assumed in speaking of them as the functions of the brain, and whatever theory of this relation may be adopted, the fact remains and must be respected. The force expended by an organism cannot exceed its income, and its income is represented by the food assimilated. Other things being equal, men of force, whether physical, intellectual or moral, are men of good digestion.

This is merely one of the multitudinous applications of the principle of the conservation of energy—a principle that gives accuracy and certitude to scientific computations, that brings order out of chaos, the crowning achievement of modern science. It may not be amiss to dwell on this thought, for, in their noble zeal, the apostles of ''plain living and high thinking'' seem sometimes given to despising the ''house we live in,'' believing it matters little if its rooms be cramped, its atmosphere stifling, and its windows small—the indwelling soul will see just as clearly, perhaps even more so in the end. No possible error is either more radical or more pernicious. The higher the function the finer the adjustment required, the greater the number and variety of conditions on which it depends. To do good work the brain requires better nutrition than do the muscles to perform work of equal quality, and nutrition is first of all dependent on food and digestion.

At the outset, then, we must insist that study shall not impair the health; in other words, shall not impair nutrition, for impairment of the former is always in some way or other impairment of the latter. What should we say of the man who, with a certain work to perform, exhausts his resources in the construction of an engine, leaving to chance the boiler which should furnish the motive power, or forgetting it altogether? At best, that he leaves perhaps a splendid monument of his folly. But the educator who sacrifices the stomach to the brain does even worse, for in the end he has neither brain nor stomach. He leaves no splendid monument of his folly, but miserable wrecks, mental and physical, to be quoted as instances of the ''failure of education.''

Second—The mental faculties develop in a certain order. The human body, as we have seen, is an assemblage of correlated organs whose functions constitute human life. The human brain is likewise an assemblage of correlated organs whose functions constitute human intelligence and human feeling. As nutrition may be regarded as the fundamental vital process, so may perception be regarded as the basic mental process. Perception furnishes the raw material of thought. The accuracy and breadth of the latter depend primarily on the accuracy and breadth of the former.

It may seem trite to say that primary impressions must precede the derivative, simple the complex, concrete the abstract but, however obvious, the principle is oftener recognized in theory than in practice. The limits of this paper forbid the consideration of details; suffice it here to say that studies should conform to the order and to the degree of development of the mental faculties—to the evolution of the intelligence.

Third—Impressions, to be most vivid, permanent and valuable, must be received through the natural channel—must be immediate, not mediate. One glance at

> ——— Heaven's ebon vault,
> Studded with stars unutterably bright,
> Through which the moon's unclouded grandeur rolls,

is worth an infinitude of description. As far as possible, Nature, in all her forms, should reach us through the senses—by observation, not description—and for several reasons: (*a*) The powers of observation need careful training. They should be trained to see not merely what they are told to see, but what there *is to be seen*, to "hold the mirror up to Nature," with judicial impartiality. It is this faculty largely that distinguishes the great man from the small. It is this achromatism that makes one man transparent to the truth; it is the want of it that discolors every observation of another. The great mass of mankind having eyes see not, having ears hear not, and people who do not see and hear cannot be properly said to think. "If I were given," says Cardinal Newman, "the alternative as a means of culture of social life without study, or of study without social life, I should unhesitatingly choose the former." And why? Because by social intercourse we are brought face to face with the great problems of life; we see and fathom abysses of which books alone could not impart the slightest adumbration. (*b*) The realization of a description of necessity presupposes a vast accumulation of impressions, both concrete and abstract, a voluntary concentration of the attention that is extremely exhausting, and a wealth of the imagination rarely observed in the young. The attempt at such realizations by school children is wasteful in the extreme and generally abortive.

In these days of apotheosis of the public schools one may incur the risk of popular censure by venturing the opinion that the most important part of intellectual education consists in training the perceptive faculties, and the judgment, which, if not wholly neglected in our school curriculum, forms therein a mere and unimportant incident. Loading up with second-hand knowledge is as far from education as is the ingestion of ashes from nutrition. For what is second-hand knowledge but the mere ashes of knowledge; knowledge with all life, all energy burned out of it? Perception then should be immediate and spontaneous. In teaching zoölogy Agassiz adopted this principle, and his genius inspiring the societies that bear his name and pursue his methods, has done more in our country to disseminate a real vital knowledge of external nature than all the books of a fecund press in its most prolific period. Original observation not only impresses the fact more firmly, but also establishes a habit of far greater value than any fact, or of any number of facts.

Not only perception but the derivative impressions also should be largely original. In his Inventional Geometry the elder Spencer adopted this principle, and as his illustrious son assures us with marked success. The all-important thing is the strengthening of the powers of observation and of reason; this makes the man, not the mere image of a man. No one can be more sensible of this truth than the intelligent physician. How many miserable failures there are who know so well what the books say, but who are utterly unable to read a page, a line, even, of that greatest of all books, the book of which all other true books are but weak and fragmentary reflections—the open book of Nature! The too exclusive pursuit of book knowledge, of what some one has contemptuously but aptly denominated "canned knowledge," makes of the mind a machine for the record of other men's opinions rather than for the elaboration of its own; makes of truth a dogma rather than a principle.

Still more, knowledge, or more correctly, the semblance of knowledge, thus forced on the student by unphysiological methods, not only dwarfs the intellectual faculties, but, what is equally calamitous, not infrequently also engenders a permanent dislike of study. I remember this somewhat amusingly illustrated by a fond mother who excused, or rather vindicated, her son's inordinate indulgence in light literature and other amusements, by saying that he had done so much hard work at college, poor boy, that he really needed the rest. The evolution of our common intelligence has followed the lines here roughly indicated; the individual intelligence cannot be wisely emancipated from Nature's curriculum.

Fourth—The molecular rearrangements of the nervous system are facilitated by moderate emotional disturbance. In various ways this was recognized in olden times. The anecdote of the salamander related by Cellini in his autobiography, affords an amusing instance. The rod at school, as well as in the family circle, has pointed many a moral and adorned many a tale that the attrition of a long life seems but to bring into bolder relief.

The exuberance of intense emotion, however, is too wasteful for frequent invocation, at least in the school-room. Here our chief reliance must be on the milder and more agreeable emotion called interest. The power of exciting and maintaining interest is the preëminent test of a teacher's capacity. Curiosity, interest, is the dominant characteristic of early life. The infant is born all eyes and ears; every object, every sound engages its attention, excites its curiosity, awakens its interest. Nothing escapes its inquisition; and what is the consequence? A progress in knowledge and experience unparalleled in after life.

Do our public schools exalt this interest? Do they stimulate this attention? Do they enliven this curiosity? On the contrary, it must be confessed I fear that, too often, they enfeeble if they do not extinguish it. This is the gravest of indictments, but one that will be sustained by unbiassed inquiry.

Having thus glanced at study in its physiological aspect, let us now approach it from a somewhat different standpoint—that of hygiene. At this juncture three questions deserve our special consideration: (1) How many hours daily during the developmental period should be spent in study? (2) How should this study be distributed in time? (3) How should it be distributed over the nervous system?

All public questions may be resolved into questions of average. Not what will the best citizen approve, or the worst, is the question in political conventions, but what is the average conscience or the average intelligence or the average interest; for, unfortunately, in striking averages we strike majorities. And so our public school curriculum assumes that each child is as bright or as stupid as every other, and cramps or stretches all minds to its procrustean bed. As long as our school system is determined by averages and not by individualization we shall be relieved of the necessity of considering the extremes of endurance, and may confine our attention to the limitations of the average—the average, not under the most favorable conditions, but the average under average conditions.

In early life attention is purely spontaneous and flits from one thing to another, in strict obedience to the predominant impression. The faculty of voluntary attention, of concentration of thought, comes by slow and painful degrees, and constitutes one of the most important factors in intellectual power. But, if overtasked, it breaks down, the mind wanders, and, as the attention is more frequently and thoroughly fatigued, wanders the more easily, and sooner or later falls into the habit of wandering, into the habit of indifference, which is fatal to all progress, physical as well as mental. At the same time the appetite becomes capricious, digestion fails, the general nutrition suffers, the brain cells become exhausted from overwork and insufficient nourishment, and a condition of irritability somewhat graphically described as irritable weakness and generally known as nervousness supervenes. The nutriment that should go to developing the organs themselves is largely consumed in discharging their over-stimulated functions, and of consequence they remain in a condition of arrested development—the boy or girl never reaches the full stature of a human being either physically, intellectually or morally. More than this, study becomes an irksome task instead of a pleasurable exercise, and books, in any serious sense at least, are put under ban forever. These lamentable results may be averted by pursuing physiological methods under hygienic conditions.

During the developmental period the power, first, of spontaneous, and then of voluntary attention, of any given faculty is rapidly exhausted and can be recovered only by rest of the organs implicated. "From 5 years of age to 7," says Edwin Chadwick, who has given this matter the most careful and intelligent study, "a child can attend to one subject, that is, to a single lesson, for only 15 minutes; from 7 to 10, about 20 minutes; from 10 to 12, about 25 minutes; from 12 to 16 or 18, about 30 minutes. The total amount of work to be expected from anyone in a day should not exceed 10 hours for young men, grading down to 2½ or 3 hours for children under 7." These estimates may seem conservative, but people who demand 15-minute sermons for themselves should hardly require 60-minute recitations of their children.

In Circular 26 the Pennsylvania State Board of Health says:

"The number of hours spent in school daily should vary with the age of the pupil, 5 hours being the maximum. * * * Very long sessions are injurious. Single sessions which interfere with the regular meal hours of the pupils are injurious. * * * Children poorly fed cannot do as much work as those well-nourished." "One innovation of modern origin," says Dr. Lincoln, "requires to be criticized : the use of a single session, closing at 1 or 2 P. M., instead of the morning and afternoon session. There should be one long recess in such a session, and arrangements for luncheon may enter with profit into the consideration of the school authorities, for it is unnatural for a growing youth to fast 6 hours at a stretch amidst vigorous exertion of mind. The fact that some have no appetite for lunch constitutes ground for suspecting that the school life or work is responsible for the want of appetite."

In the report of the Maryland State Board of Health for 1886–7 Dr. Chancellor quotes the Rhode Island State Medical Society as saying that, "under 12 years of age, 3 hours a day in school is enough. Baginsky says that 18 hours a week is enough, and Dr. Newell, in a paper read before the American Social Science Association, says that, for children of 10 or 12 years, the capacity for bright and voluntary attention is exhausted by 4 varied lessons requiring mental effort of ½ an hour each, with intervals of relief in the forenoon. In the afternoon this capacity is reduced one-half. Two hours in the forenoon and 1 in the afternoon is as long as children can be profitably employed in school. The name of half time is given in England to a system of schooling provided by law for children employed in factories and workshops. By means of it these children have secured to them for daily study in school one half the number of hours spent in government schools by children not at work. Now the result, which has surprised everybody, is that these *half-time pupils learn quite as much as the children who are in the schools twice as many hours.* Another important consideration in school discipline, so far as the health of the pupil is concerned, is the pauses or intermissions between studies. The maintenance of a sound mind in a sound body depends on a wise and regular succession of work and repose. After each hour of lessons there should be an intermission of at least ten minutes, during which the children, if well, should go into the yard, and the school-room should be aired by opening windows and doors. Such an intermission is a hygienic measure of the first importance."

"Children," says Dr. Rohè, in his Text-book of Hygiene, "should not be put in school much, if at all, before the completion of their seventh year. From 7 to 9 they should be kept at their studies not longer than three hours daily; from 9 to 12, four hours; and from 12 to 16, five or six hours." He adds that he does "not mean that they should be kept continuously at their studies during these hours, but that they should be neither compelled nor permitted to study longer than these periods each day. It is believed that these figures represent the capacity for endurance in the majority of children, and they should be adopted in all schools where the largest return in mental acquirement is desired at the least expenditure of health. Excess of time spent in study is almost certainly followed by physical deterioration."

Schrevens, in his "Manuel d'Hygiene Privée," says that "the child's day should be divided between intellectual exercise, physical exercise and rest, so as to avoid fatigue, both of mind and of body. Under the old system of two or three hours uninterrupted session, the mind could not fail to be fatigued, exhausted and filled with unconquerable disgust for school and labor. Add to this the injury arising from vicious attitudes long-continued, from the profound vitiation of the atmosphere of the class-room, and from prolonged inactivity of the muscular system, and we shall see the advantages both to moral and to physical health necessarily following the application of the principle that study should never be carried to fatigue."

Speaking of the difficulties of providing proper food for lunch, Riant goes so far as to advise the preparation at school of a hot vegetable soup, to be taken with the cold lunch brought by the children. He reiterates the opinions expressed by Schrevens.

In consequence of the difficulty and injuriousness of prolonged fixation of the attention, the model school of Brussels has adopted, for all classes, a uniform system, which consists of three-fourths of an hour of recitation, alternating with one-fourth of an hour of recreation. Janssens observes that "abuse of the sitting posture should be combatted by every means possible. If, in summer, excessive heat makes the school-room unhealthful, recitations should be instantly suspended. In the common schools of Brussels they may be suspended when the temperature rises above 28° Reaumur." (95° F.)

"It is of the first importance," in the opinion of Dr. Bonmariage, "to distribute the hours of study so that: (1) Recitations do not exceed the normal limits—three-fourths of an hour, for instance. (2) Sufficient variety be introduced to prevent intellectual satiety. (3) Recreation and physical exercise alternate with purely intellectual occupation." "Short and earnest labor," says Lagneau, "is often more profitable than too prolonged labor with wandering attention. Even if the latter, as some pedagogues still maintain, does not fatigue the intellect, it habituates the body and the mind to an indifference and inertia equally prejudicial to both. * * * In the primary normal schools (Paris), attended by pupils between 16 and 19 years of age, either 8 or 9 hours, according to sex, are devoted to sleep, 4½ to the classroom, 4 to outside study, *i. e.*, 8½ to intellectual labor and the rest to meals, recreation, gymnastic exercises, manual labor, etc." "No single school-exercise," says Dally, "with the preliminary questions belonging to it, should exceed a half-hour in the elementary classes, three-fourths of an hour in the middle classes [corresponding to our high-school classes], and an hour in the superior ones." Turning now from French to German authorities, Pelman says: "The material to be mastered in a given time increases year by year. And, as the school-hours cannot well be extended, the extra labor is put on the pupil in the form of home-study, which, in the lower classes, amounts to 2 hours, in the middle classes, to 3 hours, and in the higher classes, even to 4 hours daily. Added to the school-hours this makes 10 hours of mental labor per day. That this is too much for the brain in process of development requires no demonstration to us physicians. If we add the 36 hours of school-study to the 24 hours of home-study we shall have 60 hours of study a week, *i. e.*, 10 hours a day. Gentlemen, must we not involuntarily exclaim with Virgil: *Obstupui, steteruntquæ comæ, vox faucibus hæsit.*"

The first two questions propounded at the beginning of this section, (1) How many hours daily during the developmental period should be spent in study? (2) How should this study be distributed in time? have been fully, and, in some respects, repeatedly, answered in the foregoing quotations. Greater unanimity of opinion on any question outside of the exact sciences it would be difficult to find. And when we bear in mind that these are not the opinions of the average citizen, or of the average physician even, but of men who, with special qualifications, have given the subject special thought, we should yield to them all the authority to which human opinion is entitled.

We now reach the third question: How should this study be distributed over the nervous system? The human brain, as already stated, is an assemblage of correlated organs, whose activities constitute human thought and feeling. Just as different parts of the muscular system become tired, exhausted, by overwork, so do different parts of the nervous system; and just as we may rest a bodily muscle, so we may rest a cerebral convolution—by merely stopping its activity. One muscle may be at rest—recuperating, while another is at work—becoming exhausted; and so with the organs of the mind. A rational hygiene requires that the cerebral functions should be intermittent and successive in their activity. One study should not succeed another of the same or of a similar kind. Especially is this true of studies that demand a large outlay of nervous force; and few indeed, as ordinarily pursued, do not.

But, not to weary your patience, I must hasten to a conclusion. The lamentable results of an erroneous system of study may be averted, as I have said, by the pursuit of physiological methods under hygienic conditions. What are these hygienic conditions? Are they embodied in regulations which, between the ages of 13 and 18, prescribe nearly 5 hours of study and recitation, with little if any reference to the cerebral functions brought into activity?—which, in the period of most rapid and important development, prescribe nearly 5 hours of sitting in constrained positions on hard benches—5 hours of sedentary study, interrupted only by a paltry 5 minutes recess and 15 minutes for cold lunch? As for myself, except for the motives underlying them, I pronounce these regulations worthy of "Do-the-boys Hall" itself. The alternative results of such regulations are disease and stupidity. Nature, true to her instinct of self-preservation, fortunately often prefers the latter.

But it is said in defense of regulations tacitly confessed to be in violation of hygienic laws, that they are adopted during the summer only, and to enable the pupils to tide over the strain of the heated term. Five hours of continuous and exhaustive mental labor, with a cold lunch and barely time to swallow it, would seem somewhat heroic remedies for loss of appetite, impaired digestion and nervous prostration incident to summer heat. They need the genius of Le Sage or of Molière to depict them in all their naked enormity.

The conduct of business is chiefly in the application of knowledge already acquired, but study is the acquirement of new knowledge, and, other things being equal, requires a larger expenditure of nervous force. If the business man, in the full maturity both of his intellectual and of his physical powers, needs a lunch (and who dares deny him?), why does not a child, growing rapidly both in body and in mind, and expending far more nervous energy in active intellectual pursuits?

Again, the partizans of the continuous session assure us it is a choice of evils—the prolonged and continuous session with cold lunch, or none at all, is perferable to the post-meridian heat. Like that of many a man misunderstood and maligned because of his strong individuality, the character of Sacramento's climate is better than its reputation, even, it would seem, among our own people. The friends of a continuous session would have us believe that from the first of March to the first of August the afternoon temperature in Sacramento is too high for healthful employment in the school-room. On what evidence does this opinion rest? Most emphatically not on the figures of the signal service reports. By consulting these reports I find that in a period of 10 consecutive years we have during the months referred to but 204 days in which the temperature reaches 90° F., and but 39 in which it reaches 95° F.; *i. e.*, a fraction over 20 days annually in which it reaches 90°, and a fraction less than 4 in which it reaches 95°, the point at which school-room work is declared by the educational authorities of Brussels to be unhealthful, or at least unprofitable. Shall we for full 5 months enforce regulations positively and radically unhygienic for the ostensible purpose of averting, for a fraction less than 4 days, the injurious influence of excessive heat? Why not adopt the simple expedient of the Brussels authorities—dismiss school when the heat becomes incompatible with healthful intellectual work?

But if the afternoon session be unhealthful for the High School students, it can hardly be less so for the younger scholars who are even more susceptible to the injurious effects of high temperature. To be consistent the advocates of a continuous session should extend to the younger pupils its beneficent influence, of which they are now so cruelly deprived. Five hours of daily continuous study and recitation, with 15 minutes for cold lunch, for 4 or 5 months yearly, during 10 years of school life, during the period in which the success or failure of almost every human being is immutably determined, in order to escape the injurious influence of excessive heat for 39 afternoons, is a hygienic *reductio ad absurdum*, rarely equalled and never surpassed.

SUMMARY.

A remarkable consensus of intelligent opinion warrants us in concluding:

1. Nutrition is the basic function; no man is stronger than his stomach; a blow at nutrition is a blow at the whole man; a blow at nutrition during the developmental period is a double blow—one at the child of to-day, another, and a heavier, at the man of to-morrow.

2. Man represents a true solidarity: not an organ, not a function, is independent of any other; an injury to one is an injury to all.

3. Knowledge should be acquired through the normal avenues and by natural methods, and for several reasons: (*a*) It is thus acquired with the greatest ease, permanence and exactitude; (*b*) When thus acquired it is of far greater value both for discipline and for guidance; (*c*) Such methods engender a zeal for knowledge which other methods rather repress.

4. A slight emotional disturbance called interest greatly facilitates the acquirement and retention of knowledge, and is best excited and maintained by the means referred to.

5. The prolonged, continuous school session is harmful.

6. The daily session should be frequently broken by recesses of 10 or 15 minutes, and divided, by a long intermission, or nooning, for food and recreation, into a forenoon and an afternoon session, in the ratio of 2 to 1.

7. The continuity of cerebral activity should be further broken by change of study, involving as far as possible a change in the mental functions exercised.

8. Excessive home study should be interdicted, and the total

amount of study limited to "10 hours daily for young men, grading downward to 2½ or 3 hours for children under 7."

9. The strain and excitement of "examination" should be obviated altogether or reduced to a minimum.

212 J street.

A CASE OF POLYMYOSITIS FOLLOWING AMPUTATION.

By A. B. McKEE, M. D., Tuscarora, Nev.

On the 19th of January last, I was summoned to a ranch, 20 miles distant, to attend a man about 35 years of age, who had been injured by the accidental discharge of his gun while hunting.

Upon my arrival, about 2 P. M., I learned that the accident had occurred about five hours previous, and that the injured man had been compelled to ride 10 miles, in an open wagon, to the place where I found him. The weather was extremely cold; and, on his arrival at the ranch-house, the lower extremities were almost frozen. Upon examination, I found a wound on the inner side of the left arm, extending about 6 inches below and 3 inches above the elbow-joint. The charge, 1¼ ozs. of No. 6 shot, had carried away large masses of muscular tissue, the brachial artery, the ulnar nerve, and the inner half of the articulation. The hemorrhage had been controlled by a rope bound tightly about the arm, but the patient had lost a quantity of blood before his companion had succeeded in applying the ligature.

After ligating the artery and rendering the man as comfortable as possible, the friends were advised that an amputation would be necessary, as soon as the patient's condition would permit. Objections being made to this, consultation was requested, and Dr. J. J. Meigs, of Elko, was called in. Notwithstanding our agreement as to the advisability of the operation, consent could not be obtained. A suggestion that a third surgeon be called in consultation, meeting with approval, Dr. T. W. Huntington was summoned from Sacramento. The patient's condition for the first 24 hours was quite unfavorable, the pulse remaining feeble and rapid, and sleep being disturbed by delirium and jactitation. Great thirst and prostration were experienced; and to meet these conditions, hot milk, whiskey, and beef-tea were administered at frequent intervals. At noon the pulse, which had been 120 during the night, dropped to 84, and became much stronger.

Upon dressing the wound, on the morning of the 21st, the odor of gangrene was quite noticeable; and upon Dr. Huntington's arrival (at 2 o'clock on the morning of the 22d), all of the limb below the wound was involved in the gangrenous process. The patient finally giving his consent, amputation was performed a short distance above the wound; and some of the muscular tissue having a suspicious appearance was removed. Recovery, so far as concerned the healing of the stump, was uneventful; but the subsequent history of the case is interesting.

On the 30th, the patient was allowed to sit up for a short time, and the greater portion of the following day was spent in a chair. Upon returning to bed, he complained of pain in the calves of the legs. Feb. 1st: The muscles in this region were very painful, sensitive to pressure, and considerably swollen. The pain and swelling increased rapidly, and the patient henceforth was unable to leave his bed. Various remedies were tried, but morphine only, afforded relief. Finding that the trouble was likely to persist for some time, and the roads threatening to become impassable, the patient was placed in a sleigh and moved to town on the 5th, without injury or exposure.

Feb. 6th : Left leg somewhat more swollen. 9th : Left leg easier, but the right is worse, and seems to have been more painful since rubbing with liniment. By the 22d the trouble had passed away and the patient was out of bed. March 3d : For several days he has had a slight tenderness and pain in the left popliteal region; and there is now considerable swelling and pain; complains also of a sensation of chilliness. 4th: Calf enormously swollen. 5th: Pain in the posterior tibial region much less; but during the night the anterior femoral muscles became affected and caused more suffering than the part previously affected. 7th: The swelling has reached the inguinal region; considerable elevation of temperature. 8th: Pain excessive; whole limb swollen and is sensitive to pressure at every point; however, the parts last affected are always the most painful. 9th : Much easier. 11th : Little swelling, save in the upper portion of the thigh.

March 17th: Left leg entirely well, save a swollen band at the inside of the thigh, presenting the appearance of lymphangitis; and passive swelling of leg and foot. Right leg now affected. 19th: Right limb pursuing precisely same course as the left, with the exception of the gluteal muscles being more affected. 21st: Right limb greatly swollen, but somewhat less painful. 22d :

Thigh diminished 1½ inches in circumference during the night and all of the symptoms much less severe. 25th: Swelling gone, except, as in the case of the other limb, the hard band remains; considerable edema of both feet. April 2d: Patient is sitting up; small sensitive area behind right external malleolus. 4th: Lower half of posterior tibial muscles affected.

April 6th: No further extension; getting better. Edema of the feet persisted for some time, and the patient complained greatly of malaise and weakness; otherwise his recovery was uninterrupted. During the height of this trouble, and throughout a protracted convalescence, there was considerable pain in the stump and some muscular soreness, but no signs of irritation or inflammation ever noticeable. Careful examination of the urine failed to show any morbid changes.

Sodium, salicylate, salol, quinine, iron, and alcohol were used at various times. The first-mentioned drug seemed to have given some relief; but the apparent improvement was probably due to the attack having reached its climax.

The course of the disease was similar in the several attacks; viz.: popliteal region, posterior tibial muscles, anterior femoral region and groin; thence all parts of the limb became affected. In the last attack, an abortive one, the trouble was first noticed behind the malleolus and extended no farther than the middle of the calf. The affected area was not limited to the track of arteries, veins, nerves or lymphatics. Although in its early stages it seemed to present symptoms of embolus of the artery, eventually all parts of the limb became swollen, painful and sensitive to pressure.

KOCH'S TREATMENT OF TUBERCULOSIS.

By A. E. Brune, M. D., Sacramento, Cal.

Read before the Sacramento Society for Medical Improvement.

The great enthusiasm created by the introduction of Koch's lymph as a sure cure for consumption has by this time gradually given way to indifference and even to decided opposition. The remedy has not fulfilled our expectations, yet it cannot be denied that it has a decided and beneficial effect on all forms of tubercular disease.

Tuberculin, as it is now called, was introduced into general practice in the early part of November, 1890, after the discoverer (Prof. Koch) and his assistants had experimented with it on animals, and finally on human beings, both healthy and diseased, for several months previously. To the credit of Prof. Koch it must be said, that the remedy fulfilled in every particular what he claimed for it at the time of its introduction. In his first address on the subject he stated that the smallest dose (mg. 0.001) would give a decided reaction in a tuberculous subject, whereas a healthy person would be able to stand a much larger dose without any visible reaction. The smallest dose producing a reaction on a healthy person was 0.001. The character of the reaction was as follows: Three or four hours after the injection, pain in the extremities, lassitude, inclination to cough, dyspnea; later on, rigor, nausea, vomiting and fever. After 12 hours these symptoms gradually abated, leaving a feeling of lassitude lasting several days. Animals would, in proportion to their weight, be able to stand a much larger dose than man, yet in one particular the process in man and animal proved to be very similar; viz.: the specific action of the remedy on tuberculous processes of all kinds. The minimum dose (0.001) that in a healthy person would hardly produce reaction would, in a tubercular patient, cause decided general and local symptoms. The general reaction would manifest itself as stated above, in a chill, fever, pain in various parts of the body, coughing, lassitude, sickness at the stomach, vomiting, etc., and sometimes even an exanthematous eruption on the neck and chest.

The local symptoms, as observed in lupus, were of a specific anti-tubercular nature. A few hours after an injection between the shoulders, remote from the seat of the disease, the tubercular nodules began to swell and show signs of redness, which would increase during the period of fever to such an extent that sometimes the lupus tissue would appear brown-red and become necrotic. With decrease of fever, swelling and redness would also gradually disappear; crusts would form, under which the tissues began to heal. After 2 or 3 weeks the crusts would fall off, leaving a smooth, reddish cicatrix. Less demonstrative, yet apparent to the eye and touch, were the local manifestations of the remedy on tuberculosis of lymphatic glands, bones and joints, or where swelling, painfulness and even redness were observable. In the lungs, the evidences of reaction were increased expectoration and cough, occurring soon after the first injection.

On account of the great difference in the dose required to produce a reaction in a healthy and in a tubercular person, Koch claimed for the remedy great diagnostic value. Observation indicated that diseased tissue would, in some places, become necrotic after even one injection, and would later be separated and expelled as a dead substance; in other places it would gradually resolve, demanding for its total disappearance repeated injections. In what manner this process took place could not be positively stated as histological observations were wanted, but it was certain that the bacilli themselves were not affected. The remedy did not destroy the bacilli, but only the diseased tissue in which they were imbedded. On tissues already dead cheesy substances, necrotic bone, etc., the remedy had no action, but only on living tubercular tissues. Living bacilli that might be contained in such tissues, would either be expelled with it or, even under special circumstances, again penetrate adjoining healthy tissues. To receive the full benefit of the remedy these facts had to be considered, and by repeated injections, the healthy tissues were fortified against renewed attacks of the infective agent. In the above statements, Koch has not promised more than he is well able to sustain.

From the introduction of the remedy up to the present date (about five months), experiments have been carried on in all countries, and the reports in large number, have appeared in the medical journals. That the lymph is a powerful agent with a specific action on tubercular tissue is admitted by nearly every investigator, but as to the final result, mode of action, explanation of symptoms, cause of difference in reaction in various persons, opinions differ widely. Nearly every author alludes to the difference in the reaction, local and general. This is not the same in every person, nor is it in the same person after a similar dose. The time of occurrence, duration, symptoms and complications also differ. In consequence of this every person submitted to treatment must first be tested as to his susceptibility. The complex of symptoms which make up the reaction are the following: Increased temperature; disturbance of heart's action; quick, feeble, slow or strong pulse; disturbance of respiratory function; dyspnea, asphyxia, coughing, expectoration; disturbance of general conditions; nervous feeling, fainting and other complications. These symptoms differ frequently in their usual relation to each other; at times there is high fever with slow pulse, and then again quick, feeble pulse with little fever. By all observers it is admitted that the reaction is influenced by various conditions, as individual susceptibility, general strength, condition of nervous system, or of the heart, the presence of other diseases which diminish the power of resistance; the nature, degree and seat of the tubercular disease; the dose and the progress of treatment.

Of all the symptoms the temperature is usually regarded as the indicator of the degree of reaction, as it is one of the most constant; yet a number of cases have been reported where other indications of a general reaction were found, and where the temperature remained nearly normal and even subnormal. Usually the fever begins a few hours after injecting, continues about 15 hours, and has ceased entirely in 24 hours. Variations from this course are quite frequent, sometimes the fever commences the following day, at other times it does not cease in 24 hours, but drags along for 3 or 4 days, with more or less marked remissions. A continuous fever after injection is usually regarded as a continuation and spreading of the tubercular process; it may, however, also be due to a continuous absorption of dead or decaying tubercular tissue. Sometimes an injection has the opposite effect; in a case with continuous hectic fever accompanied with night sweats, the fever will cease and all the symptoms improve. The symptoms of the circulatory apparatus are very prominent; they are not always in harmony with the changes of temperature; the pulse is often unusually frequent and irregular. The heart's action is frequently so weakened, and the arterial tensions so diminished, that collapse, angina pectoris, and delirium cordis have been observed. Disturbances of the respiratory apparatus, dyspnea, asphyxia, etc., are usually caused by local changes in the lungs, and are also influenced by fever and the heart's action. Threatening dyspnea has been observed to last for days. Increased expectoration seems to be due partly to congestion of the mucous membrane after the injection, and partly to softening and final expulsion of the tubercular tissue. Disturbance of the digestive organs—feeling of sickness, vomiting, pain in the epigastrium, etc., are observed in cases of more general reaction. In some cases the appetite diminishes, in others it improves. If the appetite suffers continually, the treatment should be discontinued, as it is an indication of danger and bad result. Numerous other symptoms, such as eruptions, hematuria, anuria, etc., have occasionally been observed and described after the use of the remedy, but occur so seldom that they are undoubtedly more due to peculiar conditions of the system than to the treatment.

As the result of numerous clinical observations, and especially of the pathological demonstrations of Virchow, certain cases are generally regarded as unsuitable for this treatment. These are advanced cases of tuberculosis where cachexia has set in, miliary tuberculosis (phthisis florida), acute tuberculosis after cheesy degeneration due to pneumonia, tuberculosis of the brain and meninges, advanced tuberculosis of the intestine, where tuberculosis is accompanied by nephritis, amyloid degeneration or diabetes. These specific contraindications to the treatment were sustained by Prof. Virchow, who, soon after the introduction of the remedy, demonstrated, on pathological specimens, obtained *post mortem* from persons that had been treated with the lymph, that the action of the remedy on internal tubercular tissues was similar to that on external tuberculous processes. Virchow found tubercular deposits in the lungs, intestines, larynx, etc., in all stages of inflammatory reaction, peculiar to the use of the remedy, softened, necrotic, partly separated, etc.; he found tubercular ulcers in all stages of reparation. The natural conclusions drawn from this condition were, that excessive separation, decay, liquefaction and absorption of diseased tissue might endanger life by sepsis, hence advanced cases, general tuberculosis, etc., are unfitted for treatment. Furthermore, the cleaning of extensive tubercular ulcers in the intestine may lead to perforations; extensive cicatrization may lead to obstruction, etc., hence advanced cases of intestinal tuberculosis are unfitted for treatment. These views were generally born out by clinical observations; cases have been reported that seemingly progressed nicely under the treatment, but suddenly died from perforation of the intestine or severe hemorrhage.

As the bacilli, according to Koch's own statement, are not destroyed by the treatment, but only the tuberculous tissue in which they are imbedded and developed, danger was also anticipated from the invasion of heretofore healthy tissues by the liberated bacilli. These anticipations were even substantiated by the finding of recently-developed deposits along the side of old healing ulcers. Principally on that account, cerebral and meningeal tuberculosis is considered unsafe for treatment. From the acknowledged fact that the bacilli are not destroyed by the remedy, it seems the beneficial effect of the treatment is very questionable. This assumption, however, has to be met by the hope that the remedy will so act on the system that it will no longer furnish proper support for the development of the bacillus; in other words, that immunity against tuberculosis may be obtained. That this is possible the peculiar action of the remedy would indicate—the violent reaction after the use of an insignificant quantity at first, and the great tolerance of it later.

Of 5 cases recently treated in Sacramento, 3 have received decided benefit, one having received 8, the other 10 and the third about 14 injections. In the fourth case the injections had to be discontinued on account of a persistent hectic fever indicating danger. A fifth case disappeared from observation after having received 5 injections.

Seventh and J streets.

DEPARTMENTS.

OBSTETRICS, GYNECOLOGY AND PEDIATRICS.

By WALLACE A. BRIGGS, M. D., Sacramento, Cal. and
HENRY GIBBONS, JR., M. D., Professor of Obstetrics and Diseases of Women, Cooper Medical College, San Francisco, Cal.

Massage in the Treatment of Pelvic Exudations.—From a clinical experience of 7 months SLAWIANSKI draws the following conclusions: (1) Massage is indicated in various forms of inflammation of the pelvic organs and tissues. (2) The best results are obtained in the exudations of para and peri metritis. (3) Inflammation of the uterine mucous membrane diminishes, step by step, with that of the pelvic organs and tissues. (4) Lateral deviations of the uterus disappear with the inflammations which produced them. (5) In the majority of cases dysmenorrhea is either cured or notably relieved by massage during the menstrual period. (6) Gynecological massage acts favorably on the nervous system, on the digestive apparatus and on general nutrition. (7) Massage is unattended by danger, and results in marked improvement and even complete cure where other treatment long-continued has afforded no relief whatever.—*Annali di Obstetricia e Ginecologia*, June, 1891.

Treatment of Puerperal Eclampsia.—LOHLEIN has collected 325 cases of eclampsia observed in 52,325 puerperal women; *i. e.*, 1 case in 161 labors. The mortality was 19 per 100, and has not been reduced in later years. In a few cases Lohlein performed Cæsarean section, which offers the last chance of saving the life of the mother, although the convulsions do not always cease after extraction of the fetus. It also affords sufficient hope to warrant recourse to it when the life of the fetus is endangered. Véit advises morphine in large doses, which gives fairly good results, reducing the mortality to 13.8 per 100. Chrobak prefers chloroform to morphine. Schmorl announces the existence of hemorrhagic foci either about the portal veins or about the capillaries. The walls of the vessels are frequently ruptured. Emboli are produced by special cells which originate, according to Klebs, in the liver, and according to Schmorl, in the placenta.—*Union Médicale*, June 2, 1891.

Treatment of Chronic Endometritis.—PHILIPPEAU treats this disease by drainage and the application of mild caustics and astringents to the endometrium. Tincture of iodine is to be preferred, although iodized phenol may be used at the beginning. Both of these remedies should be applied by means of an applicator armed with cotton, which is allowed to remain in the uterine cavity for a minute or longer and then carefully withdrawn, so as not to displace the eschar in process of formation. A tampon of cotton impregnated with tannin and iodoform may now be placed against the cervix and the application is complete. The patient should remain quiet the rest of the day; remove the tampon the following morning, and immediately afterward take a vaginal injection of water at a temperature of 45° C. [113° F.] These applications of iodized phenol should be repeated every 4 days until the uterine discharge nearly or quite ceases, when tincture of iodine should be substituted for it and continued for several weeks or even months. Injections should never be employed. A 50 per cent. solution of zinc chloride is very efficacious and may be applied a few times once in 10 days. It is absolutely necessary, however, to put the patient abed immediately afterward. Of course, the cause, if discoverable, must be removed and the cervix must be freely permeable.—*Gazette de Gynècologie*, June 1, 1891.

Curetting in Uterine Cancers and Fibroids and in Periuterine Affections.—While, in the opinion of CUELLAR, curetting cannot be regarded as a general method of treatment in these diseases, it is still capable of rendering great service in certain associated conditions. In catarrhal salpingitis and in certain cases of hydrosalpynx curetting produces excellent results and even cure, as it does also in cases of periuterine inflammation, in which fluxion does play an important part. But in periuterine affections, accompanied by grave lesions, either circumscribed or diffuse, curetting affords only palliative or even negative results. In these cases, however, if done carefully without depressing the uterus, it is not as dangerous as some have represented it. When hemorrhage is the dominant symptom in fibroids curetting is useful, but must be rejected if the fibroids are large and the symptoms of compression predominate. Fibroids may even diminish in volume in consequence of curetting. When a radical operation is impossible, in cancer which has not yet invaded the recto-vaginal, or the vesico-vaginal wall, curetting followed, by cauterization, has seemed the best treatment for the temporary relief of hemorrhage, pain and offensive discharge.—*Gazette des Hôpitaux*, June 18, 1891.

Puerperal Endocarditis with Pulmonary Complications.—LUZET and ETTLINGER present the following conclusions of their study: The seat of infectious endocarditis is frequently in the right heart, and in the etiology of this form of disease puerperal infection takes a prominent place. The infection propagates itself step by step through the venous system, the right heart and the lungs. The course of the disease may be tedious, occupying many months. Pulmonary complications are nearly always present, and are produced by septic emboli whose development may be so gradual as to simulate tuberculosis. The affection may appear in a mild form and end in recovery.—*Arch. Génér. de Méd.*, January, 1891.

SURGERY.

By T. W. HUNTINGTON, B. A., M. D., Surgeon Southern Pacific Company's Hospital Sacramento, Cal.,
J. F. MORSE, M. D., Surgeon German Hospital, San Francisco, Cal., and
G. F. SHIELS, M. D., C. M., F. R. C. S. E., Surgeon Polyclinic, San Francisco, Cal.

Perineal and Suprapubic Lithotomy.—DR. LINDENBAUM believes (*Centralblatt f. Chirurgie*, No. 20, 1891), from an experience of 70 cases in children under 15 years, that stones of not more than 2 cm. in diameter should be removed by the perineal operation in young patients. In older people and where the urine is purulent, or there are other complications in the bladder and prostate, and the stone has a diameter of 2½ cm. or more, the suprapubic method should be preferred. In cases where the urine is putrid a counter opening should be made through the perineum, and the bladder well drained by drainage tubes. In closing, he remarks that in the choice of the method we should be guided by the indications of the case, and should not confine ourselves to the exclusive practice of either the perineal or suprapubic methods.

Surgical Treatment of Lung Cavities.—DR. SONNENBURG, who has already cut down on and treated 4 cases, in which his object was to allow of the escape of the necrosed tubercular tissue caused by the use of Koch's lymph, reports a fifth case of the same kind. One case was completely successful, and two are in the process of recovery. At first there is an enlargement of the cavity due to a breaking down of the intermediate substance. Next, when all the cheesy substance has been thrown off after a few weeks, we have left a healing granulating cavity.—*Centralblatt f. Chirurgie*, No. 20, 1891.

Trephining for Motor Aphasia.—DR. FOGLIANI reports a case in which PROF. ANSINI trephined for motor aphasia. The patient, an actor æt. 21, had, when 9 years old, violently struck his head against a wall, sustaining a deep wound in the left fronto-parietal region. Soon after, he began, especially when angry, to feel a difficulty in pronouncing certain words, particularly those beginning with B and L. The defect became so marked that he was frequently obliged to substitute other words for those he wished to use. Electricity was tried without result and he was admitted to the surgical clinic. His general condition was excellent. In the left fronto-parietal region, near the outer extremity of the fronto-parietal suture, there was a curved cicatrix about 5 cm. in length. At this point the surface of the skull presented some irregularity and was slightly depressed. In speaking, the patient repeated the first syllable of certain words or stopped as if hesitating what to say. He had a perfect mental conception of the word he wished to employ, but he had to repeat it several times in his mind before uttering it. He was always worse during periods of atmospheric disturbance. Having referred to the situation of the lesion in the skull, which corresponded almost exactly to Brocas' centre, Prof. Ansini determined to trephine. He made a semilunar incision 6 cm. in length, with the convexity downwards, reaching from the most external part of the frontal region to the anterior, two-thirds of the temporal region, on the left side, including the cicatrix and extending below it, so as to make more sure of striking on the posterior part of the third frontal convolution. The flap, together with the periosteum, having been dissected up, a trephine with a crown 2½ cm. in diameter was applied so as to include the depressed part of the skull in the disc. On raising the latter it was seen to be irregular in thickness at different parts; the internal plate was smooth, but the dura mater was adherent at one place and was torn in raising the bone, causing considerable hemorrhage. The disc was smoothed with the intention of replacing it, but it did not fit the hole in the skull; so this was not done, the operator fearing it might compress the brain. The wound healed by first intention and on the eleventh day the patient got up. At the date of report (a fortnight afterwards) the patient spoke with greater ease and correctness, the improvement being noticeable not only to himself but to those who listened to him.—*Gazzet. degli Ospital.—British Medical Journal*, June 13, 1891.

The Clinical Course and the Principles of Treatment of Chronic Ankle Joint Disease in Childhood.—DR. CHARLES L. SCUDDER says that chronic ankle joint disease usually results in a satisfactory termination if the mechanical treatment based upon established principles is carried out. In spite of these expectant methods, malignant cases of tuberculosis of the ankle joint, whether of primary, synovial or osteitic origin seem to go all to pieces. Tissue is quickly destroyed, great abscesses form and the general health fails. Nature is attempting to get rid of the diseased part, which at first is a purely local affection. A complete excision of this local disease merely interprets Nature's need and assists her. The operation may be performed at the outset of the disease, or as a last resort, or at the first appearance of malignancy. An operation is only justifiable when the evidence of malignancy remains unchecked by proper mechanical treatment. In children of poor parents who cannot give the time and proper care to expectant methods an early operation is justifiable. In determining the evidences of malignancy or need for operative interference the factors to be considered in each individual case are: The age of the patient; the duration of the disease; the previous treatment; the hereditary history; the present appearance of the part; the general condition of the patient; the circumstances of the patient. The operations on cases of ankle joint disease during twenty years at the Boston Children's Hospital warrant the following observations. Primary amputation in children and young adults is never justifiable for chronic ankle joint disease; an aseptic complete excision of the diseased bone is a safe procedure; a partial operation is, comparatively, of no value; gouging and the burr drill are blind methods, and almost worse than useless; the time of the after treatment is greatly diminished; the general health improves rapidly after excision; profuse suppuration and its attendant dangers are immediately checked; the danger from tubercular and septic infection is diminished; the extent of the disease does not contraindicate an operation for its removal; the result as to usefulness in all cases has been good.—*Boston Medical and Surgical Journal*, July 16, 1891.

The Diagnosis and Treatment of Inflammation of the Appendix.—In a discussion upon this subject before the Massachusetts Medical Society DR. JOHN HOMANS said a diagnosis of inflammation of the appendix should be made by any physician up to the ordinary standard of to-day. It is, however, difficult to recognize those cases that would be fatal if left to themselves and those that would recover without surgical aid. Chronic suppuration or hernia may occur after laparotomy for appendicitis, but this should not prevent us from operating. Rational symptoms should guide us in cases requiring an operation, and if possible it is best to wait until an abscess has formed. In cases where the vomiting ceases a day or two after the first onset, the countenance becomes bright, the temperature falls below 100°, and the pulse is about 80, and the abdomen is soft and not tense—a favorable issue with a convalescence, though often tardy and tedious, may be expected. The patients are better off than if they have to go around for a year waiting for an abscess to close and these abdominal abscesses seldom do close—or a ligature to come away, or a hernia to be cured, or with pains from adhesions. On the other hand, a tense abdomen, great mental anxiety, a rising temperature and pulse, with inability to take food and increasing tenderness in the iliac region, especially with a protrusion into the rectum, urge immediate operative interference and removal of the appendix also, if it is easily found. The varieties of appendicitis may be, classically, divided into four: (1) One in which the appendix is perforated, and, perhaps, the cecum also, and general peritonitis is at once set up. This class of cases is generally fatal with or without operation. (2) Another variety has perforation of the appendix, with limited peritonitis, soon shut off in an abscess of varying size, but generally rather large and forming a well defined tumor, often quite prominent. This class demands operation and drainage, and is generally cured. (3) A third variety has the appendix swollen and edematous, but unperforated; and yet the symptoms are severe, and there is generally great anxiety and often distension. The tumor here is ill-defined and small, but there is considerable tenderness, with high temperature, pulse, and abdominal distension. With no improvement in two or three days, laparotomy and removal of the appendix, if easily found, is proper. (4) The fourth variety has a sharp pain at first, soon subsiding. Perhaps one attack of vomiting, or tenderness on pressure, and a swelling in the right iliac region, and without any tumor in the rectum. These cases resume an almost normal temperature and pulse in a few days, and though the convalescence often lasts for four or five weeks, yet health is finally restored. The liability to subsequent attacks, however, is problematical, but operation in the initial attack is improper.—*Boston Medical and Surgical Journal*, July 16, 1891.

Compound Dislocation of the Hip.—DR. D. W. CHEEVER reports the following case (*Boston Medical and Surgical Journal*): Patient, a laborer, æt. 50, was knocked down by a case weighing 600 pounds. Examination showed a small lacerated wound in the right groin, through which the unbroken head of the femur protruded, with one-half of the ligamentum teres attached. The limb was shortened, semiflexed, everted and abducted. There was considerable venous hemorrhage. Pulsation was absent in the arteries of the foot, but returned when the limb was raised and inverted. The patient was etherized and the wound enlarged. The socket was apparently uninjured. The head of the femur was excised, the shaft of the bone dropping back readily into place. A counter opening was made in the outer side of the thigh, through the fascia lata, and 2 large drainage tubes inserted, one in each wound, and an antiseptic dressing applied. Patient died on the third day after the operation. The autopsy showed the pelvic bones intact, with no apparent injury to the vessels or nerves in the vicinity of the hip joint. The cut end of the neck of the femur showed hemorrhagic infiltration of the marrow. There were several transverse lacerations of the posterior wall of the aorta, and the tissues behind the peritoneum showed extensive extravasation of blood. The body of the third lumbar vertebra was separated from its cartilage opposite the cauda equina. The lungs were engorged, and a microscopic examination showed the presence of multiple fat emboli. In the treatment of these cases Hippocrates advised the non-reduction of all compound dislocations. He says they die if reduced, and often live if not reduced. Both he and Celsus mention excision. Agnew would excise. Gross would reduce. Holmes reduced and hoped for anchylosis. Erichsen excises or amputates. Bryant is not clear. Hamilton excises, and says the future false joint is more useful than adhesions. Ashhurst excises or amputates. Stimson would excise. Five excise, two reduce, one is not decided. The author excised for the purpose of relieving tension and to secure a drainage impossible after reduction.

Tubercle of Hernial Sac.—JONNESCO describes several cases in which the hernia was complicated by tubercle of the sac walls, or of the contents of the sac. His first case was that of a young man æt. 20 years, strong and robust, who had suffered for a few months from double inguinal hernia. The left hernia seemed stationary, but the right was painful and increasing in size, in spite of the wearing of a truss. The pain increased, the patient became unable to work, and a radical operation was therefore performed on the right side. Before the operation a clearly-defined indurated mass could be felt at the bottom of the hernial sac, but independent of the contents, which were intestine and omentum. In addition to these, the sac contained a large quantity of yellow fluid, and more could be pressed from the abdomen. The wound healed by first intention, and a year later there was no hernia on the right side, that on the left being stationary. The mass at the bottom of the sac had the typical histological characters of tubercle developing in the lymphatic network. The tubercle may be either circumscribed or diffuse, and it may extend to the mesentery.—*British Medical Journal*, April, 1891.

Plastic Operation for Congenital Syndactyly.—KUMMER publishes the case of a child, aged 7, on whom he operated by the Italian method. The third and fourth (ring) fingers were completely and irregularly united, the only movements being slight flexion and extension in the metacarpo-phalangeal and last interphalangeal joint. The skin incisions were so planned as to completely cover the third finger, leaving a raw surface on the contiguous side of the fourth finger. A triangular flap, after the method of Zeller, was shaped to form the commisure of the two fingers. The second and third phalanges of the fourth finger had to be completely removed, and to straighten the third finger the joint between the first and second phalanges was resected. The conjoined nail and the first phalanx (which was bifid at its distal end) of the third finger was divided longitudinally in the middle line, one half being left on the third finger, and the other half adapted to the fourth. In the third as well as the fourth fingers the tendons were well formed, and the vessels and nerves were not injured at the operation. A month later cicatrization of the third finger was complete, and the raw surface of the fourth finger was covered with granulations. The edges of the wound of the fourth finger were freshened, the granulations scraped away, and a flap for covering the raw surface taken from the skin of the thorax. The free edge of this flap was attached by suture to the posterior border of the wound along the fourth finger. The hand and arm were then secured to the chest by plaster of Paris bandages. Nine days later the flap was cut through at its base, and the cut edge was sutured to the anterior border of the wound of the fourth finger, thus completely covering in the raw surface left on that digit. At the end of some weeks the mobility of the metacarpo-phalangeal joint was perfect, though movement was limited in the interphalangeal joints. There was no tendency of the fingers to reunite. The fourth finger was considerably shortened.—*British Medical Journal*, June 20, 1891.

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

By Wm. Ellery Briggs, M. D., Sacramento, Cal.

Impairment or Loss of the Sense of Smell as a Means of Diagnosis.

Mr. W. Spencer Watson says that dyosphresia or impairment of the sense of smell, distinguished from anosuria, or total loss of that sense, is not easily estimated. Dyosphresia is a common congenital defect, and is not of much value as an indication of disease. Still, when the taste for flavors and the sense of smell are strikingly impaired, it is well to look for local obstructing cause. An ordinary catarrh may temporarily deaden the senses of taste and smell. If there is frequent intermittent failure of taste and smell there will generally be found some form of chronic rhinitis, and the most common form indicated by this symptom is that associated with gelatinous polypi. Other forms of nasal stenosis may produce anosuria more uninterrupted. Where no obstruction is found chronic atrophic rhinitis, ulcerations, necrosis and caries may lead to the same symptom, as well as facial paralysis with involvment of the fifth fasiculus. But anosuria is, medically speaking, a more serious symptom when it is not to be accounted for by any local disease of the nostrils. It may indicate intracranial disease or injury. Should the symptoms come on suddenly, after a fall upon the back of the head, it may indicate a separation of the olfactory bulbs from the lamina cribrosa, or the injury may have been more extensive and involve the cerebral olfactory centre, which is situated in the tempero-sphenoidal lobe. Drs. Hughlings Jackson and Beevor presented a case illustrative of this point. Perversion of the sense of smell in this case was noted as a prelude to epileptic fits, which preceded the gradual access of dementia, ending fatally; and in the *post-mortem* inspection a tumor, involving the tempero-sphenoidal lobe, was found. In any case similar to the above, in which the olfactory aura is marked, it is a question whether the case should not be handed over to the surgeon, for the purpose of trephining and endeavoring to find the cause of the mischief. In certain cases there is some hope of remedial treatment, but when this symptom is complicated with epilepsy or insanity, the probability of some tumor or disease in the vicinity of the tempero-sphenoidal lobe will suggest itself. Should there be a syphilitic history, the probability is in favor of a gumma, and treatment, if successful, will confirm the diagnosis. The possibility of optic neuritis being present should not be overlooked, and it should be a part of the routine practice in all these obscure cases to examine the retina ophthalmoscopically.—*Annals of Surgery*, July, 1891.

Bromoform as a Topical Application.—Dr. S. Solis-Cohen has recently employed bromoform in a severe case of ozena as a topical application to the nasal mucous membrane after thorough cleansing with hydrogen dioxide. The absence of the severe local reaction anticipated, together with the extraordinary success of the measure, not only in destroying the odor but in controlling morbid secretion, encouraged him to use the same agent as a topical application to tuberculous and other ulcers of the larynx, after cleansing with hydrogen dioxide. Here the agent seemed to exert analgesic as well as disinfectant properties, as pain was relieved and healing apparently promoted. The agent being extremely volatile, the immediate effect is transient, and he has, therefore, followed this application with insufflations of iodoform powder.—*Medical News*, July 11, 1891.

The Use of Fuchsin in Throat Affections.—Dr. K. Bogroff strongly advocates the use of the aniline preparations as antiseptic agents. In a case of chronic pharyngitis provoked by a tubercular condition of the lungs and larynx, in which the patient had great difficulty in swallowing, and all treatment had proved useless, a spray of a 2 per cent. boric acid solution saturated with fuchsin cured the patient's pharyngitis. The spray forms an impermeable surface over the epithelial lining and protects the tissues from irritation. It is remarked also that this treatment is especially suitable in cases of tubercular laryngitis, as the fuchsin stains the tissues with which it comes in contact, and thus facilitates observation as to whether or not the right spots were touched.—*Vratch*—*New York Medical Journal*, July 11, 1891.

Malformations of the External Ear in the Sane and in Imbeciles and Idiots.—Dr. Vàli has examined 500 healthy men, an equal number of healthy women, and several hundred imbeciles and idiots, to determine the value of an abnormal formation of the pinna as an indication of degeneracy. Of the healthy persons, 26 per cent. males and 15 per cent. females had malformed pinnæ. Only 50 per cent. of the idiots and imbeciles had normal pinnæ. Amongst the numerous variations found, Dr. Vâli mentions that prolongation and pointing of the tip of the ear were twice as common in the mentally defective class as in the sane; shortening, elongation or bridging of the scaphoid fossa followed the same rule. Projection of the antihelix above the level of the helix was especially frequent in imbeciles; in idiots it occurred about 3 times more frequently than in sane persons. Partial or complete fusion of the helix with the antihelix existed twice or three times as often in imbeciles and idiots as in sane persons. The observations further showed that in most cases the anomaly is bilateral, and if confined to one side it is usually the left. It is rare for more than one species of deformity to exist in the same person.—*Allg. Wien. med. Zeitung*—*Canada Lancet*, May, 1891.

Recent Contributions to our Knowledge of Diphtheria.—DR. J. LEWIS SMITH in a paper upon this subject reviews the latest literature. French writers have laid down as a statistical fact that the population of that country was steadily diminishing year by year, and that the cause of this was the constant decimation by diphtheria. In London the deaths from diphtheria amounted to about 4,000, and in New York to about 2,000 *per annum*. If by diphtheria is understood all pseudo-membranous inflammations having a microbic origin, then two varieties of the disease must be recognized—the first originating from the Klebs-Loeffler bacillus, and the second from the action of other microbes. The author thought it better to apply the term diphtheria to the disease produced by the Klebs-Loeffler bacillus, and the term pseudo-diphtheria to those inflammations attended by a fibrinous exudation that were produced by the agency of other microbes. Experiments demonstrated that cultures of the Klebs-Loeffler bacillus produced the characteristic diphtheritic inflammation. The action of the bacillus is restricted to the surface, and does not in itself produce systemic infection; the latter being produced from ptomaines elaborated from the bacilli. The bacillus might remain an indefinite time without result upon a normal mucous membrane protected by healthy epthelium, but if the mucous surface is denuded inoculation occurs and diphtheria results. Not only other microbes, but irritating medicinal agents, such as cantharides, chlorine, and ammonia have the power to excite inflammation with fibrinous exudation, which cannot be distinguished from true diphtheria, except by the absence of the Klebs-Loeffler bacillus. The most common form of pseudo-diphtheria appeared to occur during the course of the eruptive fevers, especially scarlet fever and measles. It was characterized by the production of white patches, which frequently were similar to those of diphtheria, so that the diagnosis was often difficult, but the false membrane did not extend to the larynx; the general condition of the patient was usually satisfactory, and the disease commonly ended in recovery, and was not communicated to others. Prudden had made examinations of 24 cases of pseudo-membranous inflammation, and in no instance was the Klebs-Loeffler bacillus found.—*New York Medical Journal*, April 18, 1891.

Dr. Hugo Neumann describes the recent investigation on the bacterial etiology of diphtheria. The bacillus is an immovable rod, is readily stained with methyl-blue, is as long as the tubercle bacillus and about twice as thick. The demonstration of the bacillus under the microscope from the diphtheritic exudation is of a great practical importance. While pseudo-diphtheritic bacilli may be present, they cannot be confounded with the true bacilli which, in contradistinction to the others, are always present in large numbers. The treatment of diphtheria, based on the biology of the bacilli, is general and local. The general treatment consists in combatting the somatic intoxication produced by ptomaines generated by the bacilli and in causing the rapid elimination of the toxic agents, and increasing the resistance of the organism. The local treatment consists in destroying the bacilli. Babus found that diphtheria bacilli do not develop in serum, when to the latter the following are added: lactic acid (3-5 per cent.), citric acid (10 per cent.), corrosive sublimate (1:1000–2000), permanganate of potash (2:1000.) D'Espine demonstrated that contact for five minutes with the following agents arrested the development of the bacilli: sublimate (1:8000), carbolic acid (2 per cent.), salicylic acid (1:2000), chloral (1:100), permanganate of potash (1:2000). Infection of the conjunctiva in rabbits was best subdued by boric acid (5:100), chloral hydrate (2.100), alcohol (1:5), sublimate (1:4000), permanganate of potash (1:1000). Investigations by Escherich & Kovalski on human beings showed, that after ½ hour applications of a spray of sublimate (1:1000) the number of bacilli was decidedly diminished; after 8 days' use of a 4 per cent. aqueous solution of carbolic acid, no bacilli could be found, while the membrane was not cast off until 6 days later.—*Archiv f. Kinderheilkunde*, Bd. 12, Hft. V. and VI., 1891.

SYPHILIS AND VENEREAL DISEASES.

By G. L. Simmons, Jr., M. D., Sacramento, Cal.

AND

DERMATOLOGY.

By D. W. Montgomery, M. D., Professor of Pathology, University of California, San Francisco.

Excision of Chancre as an Abortive Treatment of Syphilis.—H. Leloir (*Wiener med. Presse*) expresses the opinion, after excising many chancres and seeing many others excised, that in most instances syphilis follows the operation just the same. This has been his experience in three of his recent cases. The third case, which is almost identical with one reported by him at the Congress in Copenhagen in 1884, was that of an intelligent man who presented himself ten days after coitus with a woman who was found on examination by the author to be syphilitic with eroded papular chancres on the labium, accompanied by glandular swellings, and who subsequently developed a roseola, etc. Nineteen days after the suspected infection there appeared on the young man's penis a small papule, unaccompanied by induration or glandular enlargements and not showing any escape of fluid on pressure, which Leloir has advanced as a sign in the differential diagnosis of herpes and chancre. The lesion was situated on the free margin of the prepuce, and he excised it and cauterized the wound thoroughly with the thermo-cautery. Nine days later the wound became indurated, and a chancre developed without erosion or ulceration. Six weeks after excision of the original papule there appeared a discrete roseola, papules on the tonsil, slight glandular swellings on the neck and alopecia, all of which disappeared after inunctions. Histological examination showed embryonal cells far beyond the limit of tissue which clinically had appeared diseased. These he regards as the offshoots or roots of the primary syphiloma. While admitting that excision did not here succeed, he cannot agree that chancre is a local manifestation of a general condition—the first of the secondary manifestations of the disease, as Ricord has claimed. He believes that the observations of Auspitz, Unna, Langenbeck, Rydygier, Kolliker, Pick, Pospelow, Spillman and Deamicis, go to show that it is perhaps possible occasionally, in the early stage, to entirely remove a primary syphiloma. He cites the following personal observations in support of this: In December, 1884, a young man of 22 years contracted a small papule on the free border of the prepuce, which showed itself twenty-four hours after connection with a woman, who subsequently came under the author's care and was undoubtedly syphilitic. The chancre, when seen, was lentil sized, slightly eroded, round, raised, of a smooth, varnished appearance, and situated on a parchment-like indurated base. The inguinal glands were scarcely noticeably enlarged. Excision was practised, including a wide strip of tissue. Healing took place perfectly in a few days, and no induration or glandular enlargement followed. The histological examination showed the characteristic features usual in chancre. No examination was made for bacilli. In view of the clinical and histological appearances, the development of the lesion, the situation, etc., the author believes the diagnosis of chancre is warranted. The patient came twice each week to be examined, and up to the end of 1888 had not shown the least symptom of syphilis. Dr. Senger had related to the author the following case: In November, 1884, he excised by means of the thermo-cautery a typical chancre. The woman who had infected the patient came under treatment a month later with well-developed secondary syphilis. The man was seen many times afterward, but suspected lesions were never found. The excised chancre had all the characteristics of a specific ulcer, and was two weeks old. In explanation of such instances of apparent success from the method, the author thinks we may conclude that the virus has not extended beyond the line of incision. New facts bearing on the question must be awaited, and in the meantime excisions should be carried out on those who desire it, and after the state of the question has been explained to them. According to Jullien (*Union Médicale*) the excision of the chancre should be total. The cut must be wholly in sound tissue, and all the rules should be observed which hold good in operation for cancerous tumors. A few sutures are necessary to close the wound. General anesthesia is not necessary, as the application of cocaine, or, better, interstitial injection, answers every purpose. During the past ten years Jullien has operated eighteen times. Three cases were lost sight of after a few days, three were entirely relieved from any subsequent manifestation of syphilis, and the remainder were negative; all showing general symptoms of syphilis. A fourth patient had the disease so attenuated, if not eradicated, that he contracted a second chancre. In two cases after excision the chancre returned, and in one instance recurrence of the sore *in situ* made three successive operations necessary. The author believes the operation proper whenever the chancre dates from a few days only, and the glands have remained free from all specific implication, and especially if it is sure that the chancre and a wide surrounding zone of tissue could be removed. Wickham takes issue with Jullien on the utility of excision, and thinks that only the first of the three instances cited by him as successful can be regarded as final. He believes more precise observations are necessary to prove the beneficial effects of excision.—*Journal Cutaneous and Genito-Urinary Diseases*, July, 1891.

Ergotine in Chronic Blenorrhea.—According to *Viadomosci lekarski*, DR. ROICKI has obtained excellent results from the use of ergotine in chronic blenorrhea. Besides its internal use, he prescribes the following injection, to be used frequently: Ergotine, 30 cg.; distilled water, 300 gms.—*Gazette des Hôpitaux*, June 11, 1890.

Commencement, Duration and Method of Treatment of Syphilis.—LELOIR, speaking before the Tenth International Medical Congress, says that mercury should not be given until secondary symptoms appear, and then, according to the intensity. Inunctions of from 2 to 4 gms. should be used for 15 days. The patient then rests from 15 to 21 days. In the later periods a general tonic treatment is undergone and the local symptoms treated in the usual way. After 6 to 10 months the inunctions are again employed for 10-day periods, with intervals of from 6 weeks to 2 months of no treatment. Later the iodides are used. After 2 years, if the patient has had no manifestations of the disease, then inunctions twice or thrice daily of 2 to 3 gm. of the blue ointment for 10 days, and a period of rest between of 3 months. After this, a few weeks of the iodides. If marked secondary symptoms appear, the treatment must be more vigorous and the periods of rest shorter. At the expiration of the third or fourth year, if the patient for an entire year has had no manifestations, then inunctions of 10 days duration are to be repeated semi-annually; and after each period of inunctions a month's treatment with the iodides. Large doses are deprecated, as he has seen severe neurasthenia intervene. Hypodermic injections of mercury are to be used only in hospital practice.—*Journ. des Maladies Cut. et Syphil.—Centralblatt f. klin. Medicin*, No. 23, 1891.

Extragenital Syphilitic Infection.—J. VON BROICH observed in the Bonn Clinic 11 cases of extragenital infection. He noted that this form of infection was much more frequent in women than in men, and believes that the employment of women as servants and washerwomen exposes them more to such infection.—*Centralblatt. f. klin. Medicin*, No. 25, 1891.

Treatment of Syphilis with the Acid Glutin-pepton Sublimate.—Through a peculiar treatment of gelatine with dilute hydrochloric acid, the acid glutin-pepton is produced. This pepton salt unites with sublimate as a double salt, which is soluble in water. The preparation used at the clinic of PROF. STRUMPELL contains 25 per cent. of bichloride of mercury. It appears as a white, hydroscopic, and unchangeable powder, whose solution in water is also permanent. It is free from the corrosive properties of the sublimate, and in these respects differs from the heretofore known sublimate peptones. The remedy was used on 70 patients and in 1,300 injections. A Pravaz syringe full contains .01 of sublimate. The subcutaneous injections are made in the muscles of the back, or gluteal regions, daily, and may be continued for four weeks. With commencing stomatitis the treatment is suspended. Strümpell holds that the rapid absorption of the remedy prevents the patient from suffering long with mercurial poisoning. The results of this form of treatment are prompt and the residual symptoms are absent. Pain at the seat of injection is slight, infiltration seldom occurs, and abscesses were never seen. This new remedy is warmly recommended by Hüfler.—*Therapeutische Monatshefte Centralblatt f. klin. Medicin*: No. 25, 1891.

MATERIA MEDICA AND THERAPEUTICS.

By WM. WATT KERR, M. A., M. B., C. M., Professor of Clinical Medicine, University of California, San Francisco.

The Action of Oil in Disease.—DR. CALDWELL asserts that the use of oil in disease is based on the fact that it is the natural fuel for protoplasmic activity, and that it improves the nutrition of the cell by increasing its power to work. This increased activity improves its power to grow and multiply, and there results, as a consequence, stronger and more vigorous cells, better prepared to resist the encroachment of an invading army of microbes. The indication for the use of cod-liver oil is when the cell activity is defective, and when the power of the cell to reach full maturity is insufficient. In tuberculosis the cells are greatly wanting in the vitality necessary for their perfect development, and appear to spend what little energy they have in excessive proliferation of imperfect cells, which soon die. This is shown by the hyperplasia of the lymphatics, respiratory mucous membrane and pulmonary alveoli; and since this proliferation of feeble cells affords a fertile soil for tuberculosis, cod-liver oil, by removing the bronchitis or catarrhal pneumonia, may prevent or even arrest incipient phthisis. Also, when the cells have an acquired depraved nutrition, as is the case in the cachexia of tertiary syphilis, chronic rheumatism, neuralgia and certain skin affections, cod-liver oil is also beneficial.—*Therapeutic Gazette.*

Iodoform in the Treatment of Burns.—ROTTENBERG advocates the following method of treating burns: The blisters, if present, are pricked and a silk thread, soaked in corrosive sublimate solution, drawn through them and allowed to remain. The whole surface, no matter what the degree of burning, is coated thoroughly with a thick layer of vaseline containing 10 per cent. of iodoform, and then covered with gutta-percha.

The ointment is renewed daily. The pain is always speedily lessened, and healing takes place in an eminently satisfactory manner and quickly. —*British Medical Journal*, May 2, 1891.

Quinine in Whooping Cough.—PROFESSOR EMIL UNGUR, of Bonn, advocates the free use of quinine in whooping cough. Large doses are necessary, and, suiting the exact quantity to the age of the patient, he advises the use of from 16 to 22 grains *per diem*, in divided doses; even to children below 3 months of age he would recommend ¾-grain doses. These large doses are only given for a few days, and as improvement commences, the quantity is slowly diminished and given only twice or once a day instead of 3 times. The curative effects of quinine, however administered, are not apparent immediately, except in a few instances. As a rule, from 3 to 6 days elapse before the severity of the attacks begins to be diminished and the vomiting to cease. The disease then appears to run a milder course, and at the end of a fortnight the attacks are slight and infrequent. The tendency to complications, broncho-pneumonia, etc., is lessened, and improvement may be looked for in the great majority, though not in all cases.—*British Medical Journal*, May 9, 1891.

Action of Drugs on the Vomiting Centre.—C. T. THOMAS has attempted to localize the position of the vomiting centre in dogs. The medulla oblongata and upper part of the spinal cord were divided transversely at various levels, and the position of the centre was defined by the application of a 2 per cent. solution of apomorphine to the medulla. It seems that penciling the posterior angle of the fossa rhomboidatis with apomorphine causes violent and repeated vomiting. The section experiments showed that 5 millimetres in front of and behind the calamus scriptorius there is an area lying in the depth of the bulb, after division of which, the subcutaneous injection of apomorphine no longer produces vomiting, while section of other parts of the medulla does not prevent the vomiting. The direct application of emetics to the medulla oblongata also causes vomiting, but copper sulphate and the zinc sulphate similarly applied have no effect.—*British Medical Journal*, May 9, 1891.

MEDICINE AND PATHOLOGY.

By ALBERT ABRAMS, M. D., Demonstrator of Pathology, and Adjunct to the Chair of Clinical Medicine, Cooper Medical College, San Francisco, Cal.

The Clinical Value of the Diazoreaction.—The following solutions are necessary to make the diazoreaction:

a	Sulphanile acid	75 drops.
	Muriatic acid	1½ ounces.
	Distilled water	30 ounces; and
b	Nitrite of sodium	8 grains.
	Water	3 ounces.

When ready for use 75 drops of solution *b* are to be added to 8 ounces of solution *a*, and this reagent should be prepared fresh for every test. Then to equal parts of the reagent and urine, ⅛ volume of ammonia is added, and shaken up. In certain febrile diseases the fluid turns red, which is especially noticeable in the foam. This reaction is observed in typhoid fever, as well as in severe cases of phthisis, pneumonia and measles. DR. VICTOR GROSSTERN (*Gazeta lekarska*) formulates the following conclusions derived from this reaction in pulmonary tuberculosis and typhoid fever: (1) In pulmonary tuberculosis the intensity of the reaction is an index to the severity of the affection, and always means an unfavorable prognosis. (2) The reaction is always present in miliary tuberculosis. (3) The diazoreaction taken in connection with splenic enlargement and the roseolar eruption is one of the earliest symptoms of typhoid fever. (4) The diazoreaction is never present in febrile intestinal catarrh. (5) The course of the fever and the various methods of treatment have no influence on the reaction in typhoid fever. (6) The disappearance of the reaction in the second and third week of the disease indicates an early crisis; whereas, if the reaction persists, the typhoid fever will be long continued and severe. (7) Relapses are attended with a recurrence of the reaction.—*Wiener med. Presse*, April 19, 1891.

Palpation of Abdominal Tumors.—CHLAPOWSKI (*Norving lekarskie*) conducts his method of examination while the patient is immersed in a warm bath. It has been of special service in determining the nature of tumors in the ileocecal region, which persist after perityphlitis, and favor a recurrence of the affection. In the examination of wandering kidneys, tumors of the spleen, etc., this procedure has also been of service. The advantages claimed for it are: (1) Combatting reflex tension of the abdominal walls. (2) Easy accommodation in the bath to various positions. (3) Diminished pain on palpation.—*Wiener med. Presse*, April 12, 1891.

The Diagnostic Significance of a Venous Hum in the Neck.—DR. BEWLEY was induced to collect statistics bearing on this subject on reading a paper by Dr. Apetz "On the Significance of Venous Humming Murmurs for the Diagnosis of Anemic Conditions" (*Virchow's Archiv.*, Vol. cvii). The cases examined were divided into 3 classes: (1) Anemic. (2) Slightly or doubtfully anemic; *i e.*, cases which presented no appearance of anemia, but yet showing some of the symptoms of this condition; or *vice versa*. (3) Not anemic. He had examined, in all, 51 young men and 149 young women. Of these, 22 belonged to the anemic class, 31 to the slightly anemic and 147 to the non-anemic. In 22 anemic there were 19 murmurs=86.4 per cent. In 31 slightly anemic there were 27 murmurs=87.1 per cent. In 147 not anemic there were 85 murmurs=57 9 per cent. Dividing the non-anemic into male and female: In 104 females there were 64 murmurs=61.5 per cent. In 43 males there were 21 murmurs=48.8 per cent. Dr. Bewley draws the following conclusions from these statistics: (1) Murmurs are more common in the anemic than in the non-anemic. (2) More than half of those young persons who are not anemic have a venous hum in the neck. (3) The presence of a hum is not of any diagnostic importance in any individual case. The loudness of murmurs is not a matter of much diagnostic importance. In his cases 15 loud murmurs were distributed as follows: In 22 anemic, 3 loud murmurs=

13.6 per cent.; in 31 slightly anemic, 5 loud murmurs=16.1 per cent.; in 147 not anemic, 7 loud murmurs=4.8 per cent. He had noted some of the loudest murmurs in full-blooded persons, and therefore did not attribute any diagnostic value to even the loudest murmur. His conclusions were almost identical with those of Apetz, based on very elaborate statistics—*New York Medical Journal*, May 30, 1891.

Thermo-Palpation.—In a previous number of THE MEDICAL TIMES (June, 1890, p. 320) reference was made to a new method of examination, based on the principle that the skin over air-containing organs is warmer than over airless viscera; and the method was recommended for defining viscera and pathological processes. STERNBERG has since then endeavored to determine the clinical value of this method of examination. He found, by mere palpation of the thorax, that the cooler parts indicated with precision the situation of the heart, liver and spleen. By passing the finger over the thorax, in pneumonia, he was able to locate the affected lobe of the lung. He mentions a case occurring in the practice of Dr. Alder, where the seat of the lesion in intestinal obstruction was diagnosed by thermo-palpation. Catarrhal pneumonia occurring in children, after broncholitis, was located after percussion failed. Success with thermo-palpation is attained after a little practice, although the fingers used in the examination must be warm, which is best secured after immersing the hand in warm water.—*Deutsche med. Wochenschrift.*

MENTAL DISEASES AND MEDICAL JURISPRUDENCE.

By A. W. HOISHOLT, M. D., Assistant Physician, State Asylum for Insane, Stockton, Cal.

The Insanity of Doubt.—DR. P. C. KNAPP defines the insanity of doubt as a form of mental disturbance manifested in fixed ideas or imperative conceptions. Imperative conceptions may, however, be physiological; as, for instance, the persistence of a tune or rhyme in consciousness after it has passed from the senses, and the impulses people have to jump from high places, etc. These ideas are in the healthy person not dominant, but in disease they are dominant as well as persistent. Clinically, the disease has been described as having 3 stages. The first period is generally characterized by the spontaneous, involuntary and irresistible production of some series of thoughts upon indeterminate, theoretical and sometimes ridiculous subjects, illusions or hallucinations being absent. During the second period the patient begins to reveal his distress to his friends—to give prolix recitals of his doubts, and requires constant reassurance. In the third stage he is a prey to continual agitation. He does not read nor write and passes the greater portion of his time in the midst of timorous irresolution and vague apprehensions, which keep him in a state of almost complete inertia. This form of insanity, like all others, manifests itself in the maladjustment of organic to environmental relations. In these cases the want of adjustment is perceived, but not realized or comprehended; and while the patient is anxious to bring about adjustment, he is never sure of having accomplished his purpose. Dr. Knapp agrees with Spitzka in regard to the prognosis and course of the disease, considering it curable and that it generally runs its course in from 3 to 6 months, in the absence of decided neuropathic heredity. It may, it is true, run into paranoia, which it resembles in many respects. The difference is, that in the insanity of doubt the imperative conception comes primarily from a normal conception that became persistent, and which is accompanied with incessant speculation. In paranoia the mental state is descended from a normal sensory error through hallucinations perceived as such, to a primary delusion, that requires or permits of no speculation whatever.—*American Journal of Psychology—Dublin Journal of Medical Science*, January, 1891.

Sensory Aphasia.—DR. A. HELWIG, of the Viborg Asylum, Denmark, reports a case of sensory aphasia in a man aged 72. The autopsy showed softening of the middle third of the superior temporal and of the anterior part of the transverse temporal convolutions. He considers this aphasia to have been due to word-deafness; whether word-blindness was present could not be stated, on account of impairment of vision and the mental condition of the patient. The angular convolution was not involved in the disease.—*Hospitals-Tidende—Satellite*, February, 1891.

Insanity in Criminal Cases.—A bill has been presented to the New York Legislature providing for a change in the law relating to insanity and crime. It provides that "whenever, upon the trial of any indictment for any capital offense, the jury shall acquit the defendant on the ground of insanity, such insanity shall be presumed to continue, and the Court in which such acquittal shall be had shall make an order that the person so acquitted shall be confined in the State lunatic asylum for a period of not less than 10 nor more than 20 years and until it shall be proved, in the manner provided by law, that the defendant has been restored to sanity." The Governor is given pardoning power. The law as it now stands provides that, when a jury acquits a prisoner on the ground of insanity, "the Court must thereupon, if the defendant be in custody and they deem his discharge dangerous to the public peace or safety, order him to be committed to the State lunatic asylum until he becomes sane."—*Medical Record*, January 24, 1891.

Porencephaly.—MR. CONOLLY NORMAN read a paper on porencephaly at the meeting of the British Medical Association last year, in which he traced the history of the affection in medical literature, and then described a case in which had occurred in his own practice. The patient was not an idiot, but was known to have been a criminal. The history of the patient before he came under Mr. Norman's care was very defective. When first observed he suffered from paranoia with persecutory delusions. He exhibited partial right hemiplegia without aphasia. He died of phthisis. When examined after death the brain showed a large opening on the left side, leading directly into the lateral ventricle—the insulæ, the operculum and the internal capsule being absent. The optic thalamus and optic tract on the left side were diminutive. Mr. Norman was inclined to believe that porencephaly was a condition of arrested development, and he regarded the membrane which closes the opening in the brain in these cases as the altered wall of the secondary anterior cerebral vesicle which has not developed nervous matter. An interesting point about the case reported was that the functions of the internal capsule were even imperfectly performed in the absence of that structure.—*Dublin Journal of Medical Science.*

Paretic Dementia and Life Insurance.—At the last meeting of the American Medical Association DR. KIERNAN read a paper treating of a question in life insurance which had been raised of late on account of the increase in paretic dementia. As an instance, he cited the case of a man who was taken to a noted alienist by his brother. Upon a careful examination of the case the alienist pronounced it one of paretic dementia, and said that the patient would not live more than three years. The brother at once had the afflicted brother's life insured, concealing his condition from the insurance company's examiner, who was not sufficiently skilled to detect the disease. Later the patient died, and the company was compelled to pay the insurance. Dr. Kiernan spoke of other instances of the same character, saying that many of these mistakes are made by examiners who are inefficient, and have been appointed through influence rather than professional merit. According to a legal decision by the Iowa courts, insurance companies are responsible for these mistakes, and must pay the insurance.—*Medical News*, May 16, 1891.

Boards of Health Must Pay for Mistakes.—In Massachusetts it was recently decided that the law permitted Boards of Health to kill horses infected with glanders, but that it did not free them from liability if they killed animals which did not, in fact, have the disease. In such a case they would be liable to damages.—*Journal American Medical Association*, March 7, 1891.

FORMULÆ.

By GEO. B. SOMERS, M. D., San Francisco, Cal.

Treatment of Hemorrhoids.

I. *Internal Hemorrhoids.*

Chrysarobin ------gr. xv
Iodoform----------gr. v
Extract of Belladonna --------------gr. viii
Cocoa Butter ------ ʒ v—M.

Make 10 suppositories.

S.—One suppository each day. After 5 or 6 days the pain and swelling diminish. Continue for 2 months.

II. *External Hemorrhoids.*—Wash the parts several times a day with a 1:1000 sublimate solution, or a 1:50 carbolic acid solution, and then use the following ointment:

Chrysarobin ------gr. xv
Iodoform----------gr. v
Extract of Belladonna --------------gr. viii
Vaseline ---------- ℥ i—M.

S.—Use externally.—*Gazette de Gynécologie*, March 1, 1891.

Menthol in the Vomiting of Pregnancy.—The following prescription is highly praised:

Menthol ----------gr. xv
Alcohol ---------- ʒ v
Simple Syr.--q.s. ad. ℥ i—M.

S.—A teaspoonful every hour.—*Tribune Medical*, February 26, 1891.

Ichthyol.—UNNA employs the following preparation in the treatment of skin diseases:

Ichthyol	ʒ vi
Carbolic Acid	℈ ii
Starch	℥ iss
Water	ʒ vss

The ichthyol and carbolic acid are dissolved in the water while hot, and the starch added.—*Medical News*, May 2, 1891.

Resorcin in Acne.—Isaak recommends the following:

Resorcin	ʒ i
Zinc Oxide Powder, Starch	aa. ʒ iiss
Liquid Vaseline	ʒ v—M.

S.—Rub on the part affected, at night, and remove in the morning with sweet oil.—*Journal American Medical Association*, May 9, 1891.

To Mask the Taste of Quinine.—The following preparation is said to be superior to yerba santa and saccharine:

Dry Licorice Ext.	20 parts
Hot Water	20 "
Glycerine	20 "

Dissolve, cool and add—

Alcohol	10 parts
Distilled Water q.s. ad.	80 "

One drachm will cover about 3 grains of quinine.—*Medical and Surgical Reporter*.

PUBLIC HEALTH.

By W. R. Cluness, M.A., M.D., Sacramento, Cal.

Mortality.—The deaths registered in 76 town districts of the State during the past month, in a population of 679,154, correspond to an annual rate of 17.40 a thousand, the total mortality having been 985. 146 deaths were due to zymotic diseases, giving an annual rate of 2.58 a thousand. Of these, 6 were due to cerebro-spinal fever, 23 to typhoid fever, 11 to whooping cough, 2 to measles, 7 to scarlet fever, 7 to croup, 47 to diphtheria, 23 to cholera infantum, and 19 to diarrhea and dysentery. 206 deaths resulted from diseases of the respiratory organs, giving an annual rate of 4.164 a thousand. Of these 134 were due to consumption, 59 to pneumonia, 29 to bronchitis and 13 to congestion of the lungs; the rate being for consumption and pneumonia, 2.36 and 1.03, respectively. The average annual death rate from all causes, occurring in the ten largest cities and towns in the State, and representing a population of 520,000, was 17.76 a thousand. The highest rate for the month, occurring in cities having a population of 10,000 or more inhabitants, was reported from San Jose; the lowest from Santa Ana and vicinity.

METEOROLOGY.

By J. W. Robertson, B.A., M.D., San Francisco, Cal.

Summary for June.—*Temperature.*—The early weeks of June were characterized by cold, raw, and changeable weather. On the 26th a hot wave from the north spread over the State, and for the rest of the month the highest temperature ever registered prevailed over a large part of the State. On June 30th, in San Francisco, the thermometer rose to 100°, while in the valley belt nearly all stations registered over 100°.

Rainfall.—The precipitation amounted to little over a trace, and but few cloudy days were noted. Along the coast there was unusual freedom from fogs.

California—Tabular Statement for June, 1891.

STATIONS.	TEMPERATURE.						RAINFALL.		Mean Relative Humidity	WEATHER.			WIND.	FURNISHED BY—
	Mean	Highest	Lowest	Mean Highest	Mean Lowest	Mean Daily Range	No of Days Rain Fell	Total Rainfall		No. of Clear Days	No. of Fair Days	No. of Cloudy Days	Prevailing Direction.	
Auburn ....Cal.	------	------	------	------	------	------	---	------	------	---	---	---		Southern Pacific Co.
Berkeley......... "	61.6	101.0	45.9	73.9	52.4	21.4	2	------	77.6	18	6	6	S.S.W.	Obs. Univ. of Cal.
Colfax............ "	68.2	104.0	52.0	------	------	------	5	2.60	------	18	7	5	S.W.	Southern Pacific Co
Eureka........... "	56.4	73.0	44.0	61.8	50.9	10.9	10	1.53	83.4	9	12	9	N.W.	W'thr Bur. Dep. Agr.
Fresno........... "	72.4	112.0	50.0	88.2	57.9	30.3	2	0.02	41.7	25	4	1	N.W.	" " "
Keeler........... "	72.0	97.0	46.0	84.4	59.6	24.8	2	0.30	31.4	18	6	6	E.	" " "
Los Angeles.... "	62.7	89.0	49.0	77.9	54.8	23.1	0	0.00	73.1	15	14	1	W.	" " "
Monterey .... "	62.1	92.0	50.0	------	------	------	2	0 08	------	15	9	6	S.	Southern Pacific Co.
Napa............ .. "	62.9	97.0	43.0	75.4	50.4	25.0	2	0.13	69.4	20	6	4	S.	Sta. Napa Ins. Asylum
Oakland .... "	61.73	99 0	45.0	71.27	49.54	21.73	1	0.11	67.38	21	7	2	W.	Chabot Observatory.
Paso Robles.... "	69.4	110.0	48.0	------	------	------	1	0.05	------	28	1	1	N.	Southern Pacific Co.
Red Bluff....... "	72.4	110.0	50.0	84.5	59.8	24.7	4	0.55	45.8	14	13	3	N.W.	W'thr Bur. Dep. Agr.
Sacramento. ... "	65.2	106.0	48 0	82.3	55 8	26.5	1	0.05	60.2	22	6	2	S.W.	" " "
San Diego....... "	63.9	78.0	53 0	78.0	53.0	12 3	1	0 05	74.6	16	12	2	W.	" " "
San Francisco.. "	58.1	100.0	48.0	68.5	51.9	16.6	2	0.11	75.8	20	7	3	W.	" " "
Santa Barbara.. "	62.5	84.0	47.5	76.0	56.0	20.0	0	0.00	72.0	24	5	1	E.	Hugh D. Vail.
Santa Cruz...... "	63.5	92.0	47.0	------	------	------	0	0.00	------	25	4	1	N.	Southern Pacific Co.
Yuma...........A. T.	81 5	116.0	52.0	98.2	65.3	32.9	0	0.00	37.0	27	3	0	S.W.	W'thr Bur. Dep. Agr.

Blank (----) indicates data missing.

Occidental Medical Times.

JAMES H. PARKINSON, L. R. C. S. I., EDITOR.

COMMUNICATIONS are invited from all parts of the world. When necessary to elucidate the text, illustrations will be furnished without cost to the author.

SACRAMENTO: AUGUST, 1891.

PULMONARY TUBERCULOSIS.

PART II—PATHOLOGY.

The pathological anatomy of pulmonary tuberculosis is better understood after a discursive excursion into the pathology of tuberculosis in general. The term "tubercle" has a morphological significance only, and was originally employed to indicate the presence of small nodules in the lung. It was observed that these nodules underwent caseation, hence every caseous degeneration, whatever its origin, was identified with tuberculosis. This doctrine, so vigorously supported by Laennec, was antagonized by Virchow, who demonstrated that caseous metamorpohsis was not peculiar to any single pathological new formation, but on the contrary, was observed in pus, carcinomata, typhoid infiltrations, etc. Examined under the microscope, a tubercle was found to consist of cells, described as round, epithelioid and giant. The giant cells were supposed to be characteristic of the tubercle until they were found not only in other pathological structures, but under certain physiological conditions. Neither the histological structure of the tubercle nor its tendency to undergo caseation could as yet be considered characteristic. Another factor was wanting. This factor was shown by Cohnheim to be infectiousness. Later, Koch demonstrated a specific organism, the *tubercle bacillus*, in the tubercles. Koch's discovery conclusively established the infectiousness of tuberculosis.

At the present time we define tuberculosis as an infectious disease, produced by a specific bacillus which developes minute, nonvascular nodules (tubercles) in the tissues to which it has gained access. The tubercles show a pronounced tendency to undergo caseation. The length of the bacillus tuberculosis is about a third of the diameter of a red blood corpuscle, and its breadth about $\frac{1}{5}$ its length. The bacillus may be cultivated, and when bred will reproduce tuberculosis in inoculated animals. The disease thus produced is characterized by the formation of cellular nodules containing the specific bacilli. The bacillus tuberculosis, having been found in miliary tubercles, caseous pneumonia patches, scrofulous lymph glands, fungous joint and bone affections, lupus, etc., the etiological identity of these diseases is now made certain. In children the bones and lymph glands are most frequently involved by primary tuberculosis, and pulmonary tuberculosis of childhood is frequently secondary to tuberculosis of the bronchial lymph glands which have perforated the bronchi and discharged their infectious contents into the air passages. In adults the most frequent seat of primary tuberculosis is the lungs. The anatomical processes incident to the invasion of the lungs by the tubercle bacilli are many and consist of simple bronchitis, tuberculosis of the bronchial wall, tubercular peri-bronchitis, cheesy pneumonia, formation of cavities by destruction of the tubercular new growths, interstitial pneumonia and cicatricial contraction of the lung. The apices of the lungs are the starting point of phthisis, a fact observed by clinicians and pathologists. Why the apices show a predilection for the development of incipient tuberculosis has been variously discussed. Two theories have been offered in explanation—the theory of inspiration and the theory of expiration. The former supposes that in consequence of imperfect inspiratory expansion of the apices, they form a favorable lodging place for the tubercle bacilli. Hanan and Von Ziemssen believe that the local predisposition of the apices of the lungs is not due to imperfect inspiration, but to impeded expiration. The expiration theory supposes that forced expiration is attended by a recurrent passage of air into the upper lobes, because the thorax lacks contracting muscular tissue at the upper portions of the lungs. Thus, in coughing, the air will not alone stagnate and be placed temporarily under high pressure, but the expectoration of foreign material and bacteria from the apices will be prevented by the recurrent volume of air.

The predisposition to pulmonary tuberculosis is not only influenced by hereditary anomalies which favor the development of the tubercle bacilli in the organism, but individual resistance to the disease must also be taken into account. Koch showed that the condition of the respiratory organs influenced infection by inhalation. This influence is dependent on the activity of the lungs, circulation of the blood, condition of the epithelium, the air passages, etc. Clinical observations have demonstrated that pulmonary tuberculosis is not favored by conditions leading to chronic venous stasis, as in emphysema and valvular heart lesions, while anemia and certain constitutional affections, as diabetes, favor the development of the disease. The recently formulated phagocytic theory of Metschnikoff, in explanation of the resistance of the organism to the tubercle bacilli, has gained many adherents. According to this theory the function of resistance resides in phagocytes or glutton cells, recruited from leucocytes and fixed connective tissue cells that are called into activity by the irritating action of the bacilli which have invaded the air passages. The phagocytes are supposed to devour the bacilli and render them incapable of proliferation. If the scavenger cells consume the bacilli no infection occurs; if, however, they struggle ineffectually and yield, the enemies, the bacilli spread themselves over the unprotected area. There are other theories of immunity, but having advanced beyond our real knowledge, they are without practical importance.

THE CULTIVATION OF THE BACILLUS LEPRÆ.

The announcement of the Royal Commission on Leprosy that they have succeeded not only in propagating the bacillus lepræ, but also in communicating leprosy to rabbits by inoculation, is one of great interest and importance, as it proves the relation between the bacillus and its manifestations in the human body as conclusively as the experiments of Koch proved the relation between the bacillus tuberculosis and the manifestation of tubercular disease. Bacteriologists are waiting with anxiety for the details of manipulation. Hitherto there has been little or no positive observations as to the growth of the bacillus lepræ. Hansen, Arning and other bacteriologists failed altogether to secure a growth in any of the numerous media which were usually employed; and the observations of Drs. Arning and Stallard on the persistence of the bacillus lepræ in dead and decaying bodies, and in leprous tubercles soaked in water, did not suffice to do more than indicate the probability of true growth; indeed, it has been held by Lutz that the bacilli in ordinary leprous tubercles are probably already dead, as it has been all but impossible to inoculate animals with leprosy from this source.

But it is quite reasonable to suppose that the addition of glycerine to the cultivating medium as reported has altogether changed the behavior of the bacillus, as it is known also to change that of the bacillus tuberculosis. The two bacilli have undoubtedly a very close relationship. They are of the same form and the same variation in size. They attack the tissues of the body in a somewhat similar way, giving rise to a hyperplasia which pursues a very chronic course. The tubercle bacillus is propagated with considerable difficulty in ordinary media. But the addition of glycerine greatly facilitates its culture, and it may be that the inoculation of a rapidly growing colony is necessary to complete success. If true, as seems to be more than probable, the experiments of the Leprosy Commission will set at rest the question of contagion, and it is to be hoped that they will lead to a full history of its mode of propagation in susceptible communities, and thus also to a limitation, if not to a complete extirpation of the malady.

It may be interesting to note that the bacillus of syphilis, which is also closely allied to those of tubercle and leprosy, have not as yet been propagated in artificial media, and that it is probable that the addition of glycerine, or some other substance, may yet enable bacteriologists to more clearly demonstrate its history.

NOTES.

Dr. G. F. Shiels has been appointed Consulting Surgeon to the German Hospital, San Francisco.

Aspiration for Gall Stones.

An autopsy upon the subject of this operation, to which we alluded in our last issue, shows that it must have been successful, as no calculi could be found. A malignant tumor of the pylorus, completely obstructing the outlet, and measuring about 10 by 4 ins., fully accounts for the tumor present during life, upon which the remarkable operation already noted had been performed.

Suicide of Dr. L. C. Crossman.

Dr. L. C. Crossman, of Brown's Valley, committed suicide, presumably on Sunday, July 5th, the body not having been discovered until the following Saturday. For some time previous Dr. Crossman had acted in a rather eccentric manner and was evidently suffering from mental depression, on one occasion saying that he would "go away and die." On the morning of July 5th he left his house, and shortly after was seen carrying a bucket of water and a satchel. The body was found in an old cabin, lying on a lounge, alongside which was the bucket, and underneath a glass two-thirds full of water. Carefully arranged upon a shelf close at hand were a package of lint, some absorbent cotton and two open bistouries. There were no marks of violence upon his person; and while a verdict of "death by administration of a drug with suicidal intent" was returned, an autopsy or a chemical examination of the contents of the stomach, or even of the glass, were deemed unnecessary by the Coroner or by the jury.

Compulsory Examination by Defendant's Surgeon in Suits for Damages.

The Supreme Court has recently decided that the plaintiff cannot be compelled to be examined by the defendant's surgeon in a suit for damages. The case in point was a suit against the Union Pacific Co. for injuries received to the spine through the falling of the upper berth of a sleeping-car. The company sought an order of court compelling the examination of plaintiff (a woman) by their surgeon, in the presence of plaintiff's physician. The lower court refused the order, on the grounds that it was an invasion of the sanctity of the person to a degree that the law did not recognize. The Supreme Court sustained the ruling, two judges dissenting. Justice Brewer, one of the dissenters, said that if a person permitted exposure for examination by his or her medical witness, common justice demanded that the other side be accorded the same privilege, and that exemption could not be claimed on the grounds of sanctity of the person. Whilst there is some reason in these arguments, the decision of the court is evidently in line with the safest rule in these cases.

Operating and Consulting Fees.

A correspondent of the *Medical Press and Circular* raises a question that is interesting here as well as abroad. The writer says that operations should be paid for in proportion to their magnitude and responsibility. As a result of modern antiseptic surgery, much more time is spent over operations than was formerly the case; and this additional time should be paid for, the cost being equalized by the briefer after-attendance. As to the fee of assistants, the correspondent averages them at $10 to $15, without regard to the gravity of the operation or the amount of time spent. The assistant, in many operations, has as important and arduous duties as the principal, in some cases really doing the greater part of the work. The writer suggests that a fair rate would be $20 an hour, with a minimum fee of $10 for half an hour. Speaking generally, the same rule complained of by the correspondent obtains here; viz.: a uniform small fee, irrespective of time and responsibility. The question is deserving of consideration, and certainly needs an improvement in the standard of compensation.

Electrical Executions.

The quadruple execution by electricity, at Sing Sing, N. Y., on July 7th, the second that has taken place in the United States, was, as far as can be ascertained, perfectly successful. We learn from the Warden that no official report will be issued, a certificate of the autopsy only being filed with the County Clerk of New York city. The executions "were painless and eminently successful." All the witnesses present were enjoined to secresy, and nothing further can therefore be learned. The voltage is said to have averaged 1,600, and several shocks were given in each case. The lower electrode was applied to the calf of the leg instead of to the base of the spine, as in the case of Kemmler, and there was no charring of the tissues. Considerable dissatisfaction has been expressed by the papers at the strict secresy that was observed in connection with the execution. There is, however, no good reason why a sensational press should fill its columns with the disgusting minutiæ pertaining to these occasions. It is certainly a great step in advance when these exhibitions of journalistic enterprise can be suppressed. On the other hand, to compel the scientific witnesses to maintain an absolute silence is, we believe, injudicious; while the position of the representatives of the profession is hardly dignified.

A Surgical Outrage in Paris.

The *British Medical Journal* reports what it justly characterizes as an "outrage," and which, according to the *Bulletin* of the Academy of Medicine of Paris, actually occurred. At its meeting of June 23d, M. V. Cornil read a paper from which it appears that "un chirurgien étranger," whose name was not given, took advantage of the insensibility of two patients from each of whom he was removing a malignant tumor of the breast, to graft a portion of each tumor into other and apparently unaffected parts of their bodies. These grafts "took;" in one case the patient died, but not as the result of this procedure. The second patient is still living, four years after, with a presumably growing, malignant tumor, and refuses to submit to operation. It is impossible in any language to adequately denounce such a procedure. It is a breach of professional morality of the gravest kind, and an outrage upon the profession as a whole which it discredits. As a scientific experiment it cannot be regarded as of any real value, as both the victims were already sufferers from cancerous disease, and the occurrence of a new tumor at the seat of an injury and of the implantation of a foreign body does not imply that it was due to the graft. It is certainly regretable that this "experiment" should have obtained publicity through such a body as the Paris Academy of Medicine, even though by it unanimously condemned.

Strangling of an Asylum Patient by Another Inmate.

The following are the facts in connection with the recent unfortunate occurrence at the Stockton asylum: The victim, a Mrs. Sweeney, was admitted in September, 1888, and her assailant, Miss Potts, in March, 1886, the commitment of the latter stating that "she had no disposition to injure others, and was not destructive." The patient Potts, who was over 70 years of age, had been occupying rooms with other inmates for several years and had never shown a disposition to injure others. For some time past she has been mischievous and talkative. A day or two before the fatality she appeared perfectly calm, as before, and the weather being warm, the attendant released her from restraint. When the room was entered by the superintendent the chamber-pots were found broken into small pieces and the contents emptied on the floor. Miss Potts said that Mrs. Sweeney had thrown the chambers at her, but the evidence went to show that she had herself, in her frenzy, probably thrown them, and then strangled the poor woman. After the deed the woman appeared perfectly indifferent and hardly realized fully what she had done; still, she asked if she were to be taken down town, as though she expected to be punished. This unfortunate occurrence is directly due to that overcrowded condition of the asylums, to which we have often alluded. Rooms that have been designed for one person are occupied by two or more, with the inevitable result that the annoyances inseparable from this crowding lead to violence.

Alleged Massage Parlors.

For some time past advertisements of "massage parlors" have been appearing in the San Francisco daily papers. These advertisements, though appearing in the leading papers, have a peculiar significance, as the following examples will show: "Luxuriant massage baths; two young ladies at —— Market street, room ——." "Blanche, with Rose de Lafont; unique and best massage, at ——." "Two young ladies with Ida Dorn; baths and massage, at ——." The wording of the advertisement was so suspiciously unlike that which a person practising legitimate massage would adopt as to cast grave doubts upon its *bona fides.* The San Francisco *Wasp*, which had commented strongly upon the propriety of such advertisements, detailed a representative to visit several of the establishments. His report was just what might have been expected, and the *Wasp* says, "Massage is prostitution, and the sooner the fact is recognized by both people and press the better." Our contemporary means that this form of massage is prostitution, with which from independent inquiry we heartily agree; but this statement should not be carelessly worded so as to discredit a valuable medicinal agent which is to be obtained at respectable hands, even in San Francisco. We do not suppose that any but the most guileless would be deceived by such advertisements, still we agree with our contemporary that, at least on moral grounds, the papers advertising these houses should decline the business.

Suicide by Excision of the Tongue.

Two cases of attempted suicide, one of which was successful, by this unusual method have recently occurred in this city. A Chinaman, named Gwinn Ock, 55 years of age, had been blind for 18 years. 25 years ago he had attempted suicide by cutting his throat with a knife, inflicting a very severe wound. On Sunday, June 28th, he deliberately cut his tongue with a razor, inflicting a gash that almost severed that organ, the anterior 1¼ ins. being attached merely by the frenum and mucous membrane on the inferior surface. Some time later the services of a Chinese physician were procured, but beyond the application of some herbs to the wound nothing was done, and he expired at 2 A. M., the following day, having slowly bled to death, the hemorrhage being very profuse. His "wife," or rather slave, a Chinese prostitute, who was much attached to him, had evidently agreed to commit suicide at the same time, and with the razor already employed, made a clean transverse cut, extending about ¾ through the organ, about 2 ins. from its anterior edge, and also wounding the angle of the mouth on the right side. Evidently becoming alarmed by the condition of the old man, she shortly after informed his relatives of what had happened, and was then removed to the County Hospital. When seen by Dr. White the hemorrhage had been sufficient to blanch her thoroughly. The wound was brought together with deep silver wire sutures closely placed, and antiseptic irrigations of the mouth constantly employed. At the end of four days, when some of the stiches had begun to cut out and good union had taken place, she disappeared from the hospital, but was subsequently reported as having recovered perfectly.

A Death from Ether.

The following case is probably the first of this unfortunate and unusual accident that has occurred in California. A woman, aged 41 years, was admitted to the Hospital for Women and Children, San Francisco, June 1, 1891, under the care of Dr. Charlotte B. Brown, for the purpose of removing a fibroid tumor from the interior of the uterus. A small fibroid had been removed in the fall of 1889, and another in March, 1890, both under ether, recovery being prompt. On admission the patient was very anemic, but the heart, lungs and kidneys were in good condition. Fifteen minutes before the operation, she was given 1 teaspoonful of aromatic spirit of ammonia and 1 tablespoonful of whiskey, and when placed on the table she was in good condition. The anesthetic was administered in the old-time way, with a cone made from a towel, patient becoming unconscious very shortly. The precise time and the quantity of ether used is not mentioned. Twenty-five minutes after insensibility had supervened, the vagina had been irrigated, and the cervix fully dilated, when it was noticed that the heart was acting feebly. A hypodermic of 10 ms. each tincture of digitalis and of nux vomica was at once given, and the head lowered, but no cardiac impulse could be felt. A few weak efforts at respiration were made; the faradic current was applied and artificial respiration produced; hypodermics of whiskey and ammonia were given, and efforts were maintained for an hour, but without any effect. Not more than five minutes elapsed from the first sign of heart failure until death supervened. Including the operator, there were six physicians present, and it does not appear that anything further in the way of precaution or of prompt treatment when signs of collapse were manifest, could have been accomplished. There was no autopsy. This seems to be one of the very rare cases in which the heart has failed first. In the few recorded cases of death from ether, the respiration has usually ceased before the heart has stopped.

A Singular Accident.

Fashion changes in the profession as in the world around it, and while our fathers or grandfathers believed that a clean shaven face was essential for a physician, a moustache at first, and now, we believe, more generally a full beard is the rule. The only practical argument against the physician's beard and whiskers is the possible carriage of infection. This can be negatived by efficient disinfection, whilst, on the other hand, the reasons why he should wear a beard are too obvious to need enumeration. For these less fortunate persons, still slaves to the razor, an unusual accident that recently happened in San Francisco, may help to convert them, at least to self-shaving. On Tuesday, June 23d, a barber had just finished cutting the hair of a letter-carrier, named Yost, and had taken his razor preparatory to shaving the victim. Mr. Yost was reading a newspaper, the barber was talking and gesturing, when an upward movement of the razor and a forward movement on the part of Mr. Yost resulted in clipping off the end of his nose. The cut was circular, with a diameter of $\frac{4}{8}$ ins. and the cut surface about $\frac{3}{16}$ at the thickest part. The piece which had fallen to the floor was recovered and immediately replaced and maintained in very good position by a druggist next door, except at one point where the nasal cavity was involved, and here the edge had retracted, preventing perfect coaptation. Shortly after, he was seen by Dr. G. F. Card, who removed the first dressing of plaster, brought the retracted portion into position without disturbing the piece, and redressed with strips of court-plaster, the parts being covered with iodoform gauze, space for nasal breathing being allowed. Considerable bleeding (sufficient to saturate the gauze) followed the operation, and the next day the patient removed the gauze, as he did not like its appearance. On the following Friday Dr. Card removed the plaster which had become loosened by moisture. The color of the injured part was good, showing the reëstablishment of circulation. New strips of plaster were applied and remained until Sunday, and when seen the following day union was perfect. The avoidance of an unsightly deformity by prompt treatment emphasizes the fact that small parts accidentally severed should always be replaced when the least prospect of their uniting remains.

The San Francisco City and County Hospital and Chinese Consumptives.

A good deal of comment, favorable and unfavorable, has been made upon the action of the San Francisco Board of Health in refusing admission to the City and County Hospital of a Chinese consumptive patient. Some time since the Chinese residents of San Francisco petitioned the Board of Health for permission to maintain a hospital within the city limits. This was refused, and we believe the Board acted rightly in the matter. Anyone who has had experience with Chinese medical treatment and sanitation will readily see that the hospital would be a nuisance and at any time a great danger to the neighborhood. Recently a Chinaman, Jung Lin, suffering from pulmonary tuberculosis, applied to the Board for an order to enter the County Hospital. At a special meeting of the Board held July 1st to consider the question, Jung Lin was represented by counsel, the intention evidently being to make a test case of it. The attorney urged that, as his client paid taxes towards the support of the institution, he should be admitted without prejudice to race. The Board unanimously denied the application, but decided to admit the Chinaman to the pesthouse, and hereafter to designate that institution for the reception of Chinese desiring medical treatment at the hands of American physicians. This must only be a temporary expedient, as while the dangers of exposure to infection are practically *nil*, the pesthouse being generally unoccupied, except by a few lepers, it will not be denied that danger does exist. Meanwhile, the Board has acted for the best under the circumstances. The Chinese, by their habits and mode of life, are unsuited for admission to the wards of a general hospital. The question has so far not arisen, because, as a rule, they prefer their own physicians. The majority of Chinese on the Pacific Coast have come here under contract to one of the "Six Companies," whose mysterious and far-reaching organization governs the movements of the immigrant during life, as well as the disposal of his remains *post-mortem*. His "Company" engages to provide for the Chinaman in sickness or injury, and does so after its own fashion. If now the Mongolian authorities have decided to adopt American medicine, the Board of Health will have no alternative than to establish wards or separate buildings for this special class of indigent sick. It would seem, however, having in view the organization of the Six Companies, that it would be well to determine whether applicants for admission come within the meaning of the law providing for county hospitals. In certain cases compulsory removal to hospital would be enforced, but these cases go to the pesthouse; and it is for others that a settlement of the question is desirable.

Unwarranted Publication of the Proceedings of the State Society.

Under this caption in our issue of June we commented upon the action of the *Pacific Medical Journal* in publishing in full the reports of several of the Committees. The *Southern California Practitioner* alluding to the matter says:

> If the writer's memory serves him correctly, the President of the State Medical Society, who presided at the meeting held in Los Angeles April, '90, recommended that members reading papers before the Society might publish them in *any* medical journal before their appearance in the Transactions, if they so desired. The committee on President's address brought in a minority report on the above recommendation, which failed to meet the support of the Society. During the session held at Sacramento in April, '91, Dr. W. A. Edwards, of San Diego, was censured for furnishing only a synopsis of his paper to the publication committee, when that was all he had read. If it be the rule of the Society that only complete papers, and such of these as have not been published elsewhere, be printed in the Transactions, then the Transactions will be without many of the valuable papers this year, for already the Reports on Clinical Medicine, Surgery, Gynecology, Ophthalmology and Otology, Public Hygiene and Medical Topography have been published in the *Pacific Medical Journal*. We believe that it is wise to give the papers as much publicity to the profession as possible, but we not believe in any one journal having a monopoly in this matter.

The *Pacific Medical Journal* obtained the monopoly alluded to by flagrantly violating a by-law of the Society. The committee report adopted at Los Angeles, decided that papers and reports, "*except* President's address," read before the Society should not be published *in extenso* until they had appeared in the transactions. The exception in regard to the President's address was made from the fact that it is usually on some general topic or topics, and that the daily papers have always tried and often succeeded in publishing it in full. We believe that it is desirable that it should so appear, and that it should not be on scientific subjects as much as on those that concern the people—the public and the profession, and that in fact it should be a connecting link between the Society and the laity. The *Pacific Medical Journal* in its issue of July, while pleading guilty to the charge, attempts to justify its course. This is really unnecessary. The *Practitioner* and THE MEDICAL TIMES in a perfectly legal way will always, we trust, rescue the proceedings of the Society from condemnation to "eternal sepulture" in the *Transactions*, or in the *Journal*. One unexplained aspect of the case is the fact that at least one of these papers, and we may presume others, was furnished to the *Pacific Medical Journal* on the understanding that an "abstract" was to be made. This amounts to a violation of private confidence, from which, of course, no one could protect himself.

SOCIETY PROCEEDINGS.

SACRAMENTO SOCIETY FOR MEDICAL IMPROVEMENT.

Regular Meeting, June 23, 1891.

The President, J. H. PARKINSON, in the Chair.

Horny Growth.—DR. T. W. HUNTINGTON exhibited a horn half an inch in length and $\frac{3}{16}$ in. in diameter at the base, that he had removed from the upper lip of a patient. The growth was attached at the juncture of the skin and mucous membrane, and had been growing for 2 years.

DR. C. E. FOWLER read a paper upon the "Relationship Between the Physician and the Public."

DR. G. L. SIMMONS, in opening the discussion, said he had hoped the author would refer to fees for expert testimony in court. The public and the authorities do not realize the injustice done physicians in attendance upon court after traversing the State from one end to the other, without recompense of any sort. Physicians were called as experts in cases of which they knew nothing, and compelled to pay railroad fare and other necessary expenses out of their own pockets. No other profession is thus deprived of compensation. He believed the profession should organize to resist this injustice, and to remedy it. Seventeen years ago this matter was before the Legislature, and a law was passed authorizing the presiding judge to allow a fee when called as an expert. Two or three years afterwards a code commission was appointed and this law was left out and it has never been reinstated.

Dr. C. B. Nichols said that some action should be taken in the matter; physicians did too much public work for nothing. During the cholera in this city four physicians were appointed to take charge of the cases. Two of these died and the survivors never received any compensation. In other States compensation was allowed by law to medical experts, and this should also obtain in California.

Dr. T. W. Huntington said the point introduced by Dr. Simmons was a knotty one, and the principle involved was somewhat obscured in the diversity of opinion. There appears to be no definite value placed upon expert testimony, and if compensation were allowed evidence of this character could be produced *ad libitum* for either side. He believed that the remedy was to be found in giving the court authority to summon experts whose testimony should be conclusive.

Dr. F. R. Waggoner said the State of Nevada was more liberal in this matter, the judges allowing expert fees when this testimony was needed.

Dr. W. E. Briggs: The expert may avoid being summoned by proving ignorant on the subject. The public as a rule expected too much from physicians and were proportionately ungrateful. Patients, through skilful medical treatment, were often placed in a position where they could earn a livelihood, but they forgot that any pecuniary compensation was due on account of this service.

The President said that the principal opposition in this matter came from the lawyers who were interested in opposing it on the ground that it interfered with litigation. The same argument had been brought forward in connection with the bill that had been introduced relating to actions for malpractice against physicians. The matter certainly deserved the attention of the profession.

REVIEWS AND NOTICES.

Taking Cold. By Francke H. Bosworth, M. D., Professor of Diseases of the Throat in the Bellevue Hospital Medical College of New York. Physician's Leisure Library. Detroit: George S. Davis. pp. 69. Price: Cloth, 50 cts.; paper, 25 cts.

"Taking Cold" is the title of a little book in the Physician's Leisure Library Series, and its author discusses a very interesting topic in a very interesting manner. His theory of taking cold is based upon disturbances in heat production and may be stated as follows: Exposure acts indirectly, through the central nervous system, primarily arresting heat production in the part of the body exposed, which, being recognized by the central nervous system, creates a disturbance there, in consequence of which an excessive amount of nerve force is sent out to the point of the greatest weakness, there setting up inflammatory action, the effect on the nervous system being evidenced by the feeling of general depression, with fever. Such a theory puts the malady upon a scientific basis and permits a rational treatment. The question of clothing, medication and the various means for preventing cold are all very ably discussed, and although there are many points concerning which there is room for difference of opinion, the reader will find many useful suggestions.

Fever: Its Pathology and Treatment by Antipyretics. Being an essay which was awarded the Boylston prize of Harvard University July, 1890. By Hobart Amory Hare, M. D., B. Sc., Clinical Professor of Diseases of Children, and Demonstrator of Therapeutics, in the University of Pennsylvania; Physician to St. Agnes' Hospital and to the Children's Dispensary of the Children's Hospital, etc. No. 10, Physicians' and Students' Ready Reference Series. Philadelphia: F. A. Davis. pp. 162. Price, $1 25.

The great amount of research that has been carried on in the department of antipyretics since the discovery of the valuable therapeutic properties of the coal-tar products makes an essay such as the above very acceptable. It originally appeared as the Boylston Prize Essay, in July, 1890, under the title, "The Uses and Values of Antipyretics," and contained a detailed account of experimental and clinical investigations into the antipyretic value of antipyrin, antifebrin, phenacetine, thallin, and salicylic acid. The author's conclusions are that the antipyretic value of these drugs is in the above order, although in the control of rheumatism the salicylates are supreme. In fever accompanied by adynamia or marked depression antipyretics are, as a rule, contraindicated. The book is interesting, as it contains what is probably the most complete account of a very important class of remedies.

SEXUAL NEURASTHENIA (nervous exhaustion); ITS HYGIENE, CAUSES, SYMPTOMS AND TREATMENT, WITH A CHAPTER ON DIET FOR THE NERVOUS. By George M. Beard, M. A., M. D., formerly Lecturer on Nervous Diseases in the University of the City of New York; Fellow of the New York Academy of Medicine, etc. Edited by A. D. Rockwell, M. A., M. D., Professor of Electro-Therapeutics in the New York Post-Graduate Medical School and Hospital, etc. Third edition; with formulas. New York: E. B. Treat. pp. 282. Price, $2 75.

This work has been edited by Dr. A. D. Rockwell, from the manuscript of his deceased associate, Dr. G. M. Beard, whose writings on "Electricity," "American Nervousness," "Stimulants and Narcotics," are already well known to the profession. The present work deals with a malady that is of great importance and, unfortunately, of only too frequent occurrence in the practice of American physicians; and the fact that it has already reached its third edition is itself the best indication of the value of the book. The present edition differs from the former chiefly in the more extended instructions regarding the use of electricity in the treatment of the disease.

MEDICAL SYMBOLISM IN CONNECTION WITH HISTORICAL STUDIES IN THE ARTS OF HEALING AND HYGIENE. By Thomas S. Sozinskey, M. D., Ph. D. Illustrated. Physicians' and Students' Ready Reference Series. Philadelphia: F. A. Davis; pp. 171. Price, $1.

Medical symbolism was the last literary effort of the late Dr. Sozinskey, and was completed just before his death about two years ago. We may be permitted to inform our readers that "Medical Symbolism" does not refer to the signs or symbols used in pharmacy, but is an explanation of what might be designated the heraldry of medicine. This, of course, involves an account of the mythology of medicine in different countries, and therefore is a history of the growth of medical science. It is hardly necessary to say that such a topic, excellently treated, makes the book of great interest and well worth reading.

REPORTS, ANALYSES AND NEW INVENTIONS.

The B. T. H. Water-oil Atomizer.

We have received from Messrs. Ellis & Goltermann, of New York, one of their "B. T. H. Water-oil" atomizers, which they claim is the only instrument in the market that will spray both water and oil. The atomizer is simple in construction, consisting of a rubber bulb and tube, with metallic air valve, a 2-ounce bottle, and a hard rubber pipe and nozzle. It is made with three tips, for nose, throat and larynx. We find that it is an exceedingly efficient instrument, throwing a very fine and uniform spray. It is easily cleaned and, unless by breakage, cannot get out of repair. The price is moderate, ranging from $1.50 to $2.00, according to the number of tips furnished.

MEDICAL NEWS.

LICENTIATES OF THE BOARD OF EXAMINERS.

At a meeting of the Board of Examiners, held July 14th, 1891, the following physicians, having complied with the law and the regulations of this Board, were unanimously granted certificates to practise medicine and surgery in this State:

Sidney Harvey Knowles, San Francisco; Omaha Med. Coll., Neb., March 26,'85.
C. W. Bryant, Peralta; Hosp. Coll. of Med., Louisville, Ky., June 13,'88.
A. I. Wilson, Rialto; Ohio Med. Coll., O., February 27,'78.
J. G. O'Neill, Volcano; Trinity Coll., Dublin, July 4,'78.
Gustav Mahé, San Francisco; Bellevue Hosp. Med. Coll., N. Y., March 11,'89.
Benj. A. Vance, Perris; Miami Med. Coll., O., February 27,'77.
Thos. E. Johnson, Poplar; Med. Coll. of Missouri, March 4,'84.
Geo. McKenzie, Concord; Univ. of Toronto, Canada, May 6,'91.
Richard John Hall, Santa Barbara; Coll. Phys. and Surg., Med. Dept., Columbia Coll., N. Y., March 1,'78.
Philo Hull, Clayton, Mich.; Univ. of Michigan, June 30,'87.
Iga Mori, San Francisco; Imp. Naval Coll. of Med., Japan, September 15,'87.
Geo. H. Evans, San Francisco; Detroit Coll. of Med., Mich., March 19,'91.
H. Herriford, Redding; Coll. Phys. and Surg., Keokuk, Iowa, June 20,'76.
Fisher Randall Clarke, Stockton; Kentucky School of Med., Louisville, Ky., June 30,'91.

CHAS. C. WADSWORTH, Secretary

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the U. S. Army (Division of the Pacific), from June 16, 1891, to July 16, 1891.

Leave of absence for one month, to take effect the 1st proximo, with permission to apply to the proper authority for an extension of 15 days, is granted Acting Assistant Surgeon F. K. Ainsworth. Par. 4, S. O. 71, Dept. Arizona, June 19, 1891.

The leave of absence on surgeon's certificate of disability, granted Major Julius H. Patzki, Surgeon, in S. O. No. 99, May 1, 1891, from this office, is extended two months on S. C. D. Par. 15, S. O. 142, A. G. O., June 22, 1891.

1st Lieut. Robert R. Ball, Assistant Surgeon, is relieved from further duty at Boise Barracks, Idaho, and will return to his proper station, Fort Spokane, Wash. Par. 1, S. O. 92, Dept. of the Columbia, June 24, 1891.

Assistant Surgeon Edward C. Carter, relieved from duty at Fort Walla Walla, Wash., and assigned to duty at Fort Canby, Wash.

Official List of Changes in the Medical Corps U. S. Navy (Pacific Station) from June 20, 1891, to July 20, 1891.

Assistant Surgeon, John E. Page, from Naval Hospital, Mare Island, Cal., to United States' R. S. "Independence" for duty in Behring Sea on chartered steamer "Al Ki."

Assistant Surgeon, M. R. Pigott, to Naval Hospital, Mare Island, Cal.

Surgeon William Martin, from Marine Rendezvous, San Francisco, Cal., and attendance on Naval Officers' families, granted leave until September 15, and placed on waiting orders.

Past-Assistant Surgeon, M. H. Crawford, from United States' R. S., "Independence," to duty at Marine Rendezvous, San Francisco, Cal., and attendance on Naval Officers' families not otherwise provided for.

Past-Assistant Surgeon, Louis W. Atlee, to United States' R. S., "Independence."

ITEMS.

Malted Milk Co.—Owing to a typographical error, the name of this firm appeared in our last issue (advt. p. v) as the "Racine Milk Co."

Manual of Clinical Diagnosis.—In our review of Dr. Abrams' Manual, the price was stated to be $1.00, instead of $1.50.